PHIBRO-TECH, INC.

October 17, 2002

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Los Angeles, CA 90013

Mr. Ron Leach
USEPA, Region IX (H-4-4)
75 Hawthorne Avenue
San Francisco, CA 94105

Ms. Karen Baker
Permitting Division
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Dear Mss. Chou and Baker and Mr. Leach:

Enclosed is the July 2002 Quarterly Groundwater Monitoring Report for Phibro-Tech, Inc., Santa Fe Springs facility. The Report includes analytical results and physical measurements obtained July 24 - 26, 2002 from selected monitoring wells at Phibro-Tech. Since this Report includes portions of the RCRA Facility Investigation (USEPA Docket No. RCRA 09-89-0001), this Report will also be submitted to the EPA.

Based on a technical review by our consultant, Camp Dresser and McKee, a groundwater-monitoring program is included which was implemented beginning with the April 1991 groundwater monitoring. Additional wells and parameters changed at the request of EPA are included in this Groundwater Monitoring Report. The changes are described in the Report.

Please contact me if you have any questions or comments concerning this Report.

Sincerely,

Alonso F. Alatorre

Alonso F. Alatorre
Plant Manager

Enclosure

cc: see following page

grdwtrrptcoverltr

PHIBRO-TECH, INC.

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CDM

Phibro-Tech, Inc.

July 2002 Quarterly Sampling Report
Santa Fe Springs, California

October 15, 2002

Prepared for:

Phibro-Tech, Inc. (PTI)
8851 Dice Road
Santa Fe Springs, California 90670

Prepared by:

CDM
18581 Teller Avenue, Suite 200
Irvine, California 92612

Project No. 2279-36882-REP.REPT

Phibro-Tech, Inc.

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The information contained in the July 2002 Quarterly Sampling Report for the Phibro-Tech, Inc. Santa Fe Springs, California, facility has received appropriate technical review and approval. The activities outlined in the report were performed under the supervision of a Registered Geologist or a California Professional Engineer.

Reviewed and Approved by:

REGISTERED GEOLOGIST
SHARON L. WALLIN
4399
exp. 4/04
STATE OF CALIFORNIA

Sharon L. Wallin

Sharon L. Wallin, R.G.
Project Manager

Section 1
Introduction

This report summarizes the July 2002 quarterly groundwater monitoring and sampling event at the Phibro-Tech, Inc. (PTI), Santa Fe Springs, California facility (formerly referred to as Southern California Chemical). This report presents the third quarter groundwater analysis for 2002. Contained herein are the results of laboratory analyses of groundwater samples and water level measurements obtained during the period of July 24 through July 26, 2002.

The purpose of this monitoring program, which began in March 1985, is to determine if compounds of concern detected in groundwater beneath the site are migrating from the facility. This objective is accomplished through the comparison of background or up gradient water quality and groundwater quality beneath the site. Statistically significant increases in contaminant concentrations between known areas of groundwater contamination and down gradient wells would indicate that migration is occurring. In the past, statistical analysis was performed annually and was included in the July quarterly monitoring reports. Statistical analysis is now conducted for each sampling event and is included in the corresponding monitoring report.

To date, three types of contaminants have generally been detected in the groundwater beneath the site: soluble metals (primarily chromium and cadmium), purgeable aromatic organic compounds (toluene, ethylbenzene and total xylenes [BTEX]) and purgeable halogenated organic compounds (i.e., solvents, primarily trichloroethene [TCE]). Groundwater modeling completed in January 1993, and groundwater monitoring conducted since 1985, indicates that the purgeable aromatic plume originated up gradient from the PTI facility. The distribution of TCE appears to be ubiquitous, although somewhat elevated concentrations exist in the vicinity of Pond 1, a RCRA-regulated former surface impoundment area. Elevated concentrations of soluble metals have also been consistently detected in the vicinity of Pond 1. Soluble metal concentrations at the down gradient property line and in deeper wells, however, continue to be near or below detection.

Approximately 16 years of quarterly groundwater monitoring at the PTI facility has indicated that dissolved hexavalent chromium is not migrating. During groundwater modeling performed by CDM in 1993, a retardation factor of 50 was selected based on the observed distribution of hexavalent chromium in the groundwater. Previous data analysis indicated that the most likely basis for the relatively high (but within the range of reasonable and appropriate values) retardation factor would be the existence of reducing conditions in the saturated zone, promoting the chemical reduction of hexavalent chromium to trivalent chromium (Cr^{3+}). Trivalent chromium, having a very low solubility in water, tends to precipitate and sorb to the soil, inhibiting migration. During four quarterly sampling events conducted in 1996, additional laboratory analyses (iron and redox potential) were performed on groundwater samples collected from wells MW-04, MW-09, and MW-14S. These additional data, along with the pH, total chromium, and hexavalent chromium data, provided a better understanding of the mechanisms controlling chromium migration in groundwater underlying the facility and supported the above hypothesis. Please refer to Section 6.4 (Chromium Fate and Transport) of the October 1996 Quarterly Sampling Report for a detailed discussion of this conclusion.

In addition to the data obtained during the July 2002 sampling, this report contains tables listing detection limits of the parameters analyzed (Appendix A). Historical sampling results for selected analyses from January 1989 to April 2001 are presented in Appendix B. Copies of the original laboratory results for the July 2002 sampling event are included in Appendix C. Chain-of-custody records for the July 2002 sampling are included in Appendix D. Appendix E contains background groundwater concentrations of contaminants for the Santa Fe Springs area for the year 1999. Appendix F contains the complete quarterly statistical analysis.

Prior to October 1993, quarterly reports have included analytical result summary tables from all previous sampling rounds. Starting with the October 1993 quarterly report, historical water quality data tables were no longer included in the report as an appendix. Please refer to Appendix B in the July 1993 Quarterly Sampling Report for a summary of historical groundwater analytical data. As previously discussed, summary table of selected historical results since January 1989 is provided in Appendix B of this report.

Section 2
Monitoring Well Sampling

CDM personnel conducted groundwater sampling of existing on-site monitoring wells between July 24 and July 26, 2002. Field activities were performed in general accordance with the groundwater sampling protocols as outlined in Section 4.3.3 of the approved RCRA Facility Investigation (RFI) Work Plan (CDM, June 1990). Prior to the submittal of the RFI Work Plan for regulatory agency review and approval, the J.H. Kleinfelder and Associates (Kleinfelder) Quality Assurance Project Plan (QAPP, May 1988) was used as the primary groundwater sampling guidance document. Proposed deviations from the RFI Work Plan (i.e., well purging using a submersible pump and sample collection using disposable bailers) were discussed in October 1994 correspondence to the DTSC. These changes were implemented during the October 1994 and all subsequent sampling events.

Twenty-four monitoring wells exist on-site. The locations of these wells are shown on Figure 2-1. One well, MW-06A, historically has not been sampled for groundwater analysis because it is screened in the Gage Aquifer, which is unsaturated below the PTI facility. The remaining wells are screened in the Hollydale Aquifer; 16 in the upper portion and 7 in the lower portion of the aquifer.

Beginning in February 1985, Kleinfelder initiated groundwater sampling, utilizing monitoring wells MW-01 through MW-06B. Six additional wells (MW-04A and MW-07 through MW-11) were installed at the site in July 1985, thereby increasing the total number of active wells to 12. Quarterly sampling of the 12 wells was initiated in March 1986.

Commencing with the January 1989 sampling event, CDM has been responsible for all groundwater-monitoring activities at the facility. Ten wells (MW-01D, MW-06D, MW-12S, MW-12D, MW-13S, MW-13D, MW-14S, MW-14D, MW-15S and MW-15D) were installed as part of the first phase of the RFI program and were first sampled during the October 1990 sampling round.

Groundwater analysis of the 22 wells that existed during the RFI program from October 1990 to January 1991, indicated that the number of wells sampled could be reduced and yield comparable results to sampling all the wells. During sampling rounds in April, July, and October 1991, and in January 1992, 11 wells were sampled. Wells screened in the upper portion of the Hollydale Aquifer included MW-01S, MW-03, MW-04, MW-07, MW-09, MW-11, MW-14S, and MW-15S, and wells screened in the lower portion of the Hollydale Aquifer included MW-01D, MW-04A, and MW-15D.

Beginning with the April 1992 sampling round, three additional wells (MW-06B, MW-06D, and MW-16) were included in the quarterly monitoring program, bringing the total number of sampled wells to 14. Well MW-16, constructed in March 1992 as part of the Phase II RFI program, was sampled for the first time during the April 1992 sampling round. The same 14 wells have been sampled during all subsequent sampling rounds. On several occasions, additional laboratory analyses have been performed and additional wells included in quarterly sampling, at the request of the U.S. EPA. Additional analyses and wells are noted in the comment column of Table 2-1, which summarizes the groundwater-monitoring program at the site.

In April 2000, the frequency of groundwater monitoring was reduced from quarterly to semi-annually. In April 2001, as requested by the California Department of Toxic Substances Control (DTSC), quarterly sampling was re-implemented.

The 14 wells currently included in quarterly sampling are MW-01S, MW-01D, MW-03, MW-04, MW-04A, MW-06B, MW-06D, MW-07, MW-09, MW-11, MW-14S, MW-15S, MW-15D, and MW-16. Ten shallow and four deep wells are analyzed for pH, metals (cadmium [Cd], chromium [Cr], and copper [Cu]) using EPA Method 6010A; hexavalent chromium (EPA Method 7199), and volatile organic compounds (EPA Method 8260). During the July 2001 and October 2001 sampling events, DTSC requested that samples from wells MW-01S, MW-04, MW-09 and MW-11 be analyzed for 1,4-Dioxane. A detailed listing of analytical parameters per sampling event is provided in Table 2-1.

The 14 on site wells were purged and sampled in the following order: MW-01S, MW-01D, MW-03, MW-15D, MW-15S, MW-06D, MW-06B, MW-14S, MW-04A, MW-04, MW-16, MW-09, MW-07, and MW-11.

2.1 Sampling Procedure

Field sampling was conducted in general accordance with procedures detailed in the RFI Work Plan. Sampling practices included the following: check for floating product and hydrocarbon vapors at each well; measure static water level and total depth of each well in order to calculate pre-sampling evacuation volumes; purge each well and collect a groundwater sample for laboratory analysis; decontaminate sampling equipment; and handle sample-filled containers in accordance with Section 4.3.3.5 of the RFI Work Plan.

2.1.1 Organic Vapor Check

Standard field procedures included checking the interior of each well with a photoionization detector (PID) (equipped with a 10.0 eV lamp) for the presence of organic vapors whenever the well casing was opened. With the sampling team members standing upwind of the well, the well cap was opened slightly, allowing for the insertion of the PID probe tip inside the well. Readings were monitored until they stabilized, which was usually at zero parts per million (ppm). The final reading, as well as the peak reading, were recorded in the field logbook. The cap was then removed and the well allowed to vent for a short period of time prior to measuring the static water level. The maximum PID readings taken during the collection of water level measurements are shown in Table 5-1 in Section 5.

2.1.2 Detection of Immiscible Layers

In order to detect the presence of floating, immiscible layers on top of the groundwater surface, a clear bailer was lowered approximately one-half the length of the bailer below the surface of the water in each well. The bailer was removed from the well and its contents checked for immiscible layers or iridescence. The bailer was decontaminated and the sampling line discarded after each use. If immiscible fluids had been detected, a sample would have been collected for laboratory analysis of purgeable halocarbons and aromatics (EPA Method 8260) and total petroleum hydrocarbons (California Department of Health Services [CA DHS] Method) using a new bailer. As in all previous quarterly groundwater sampling at the PTI facility by CDM, immiscible layers were not detected during the July 2002 sampling event.

2.1.3 Static Water Level/Well Depth Measurement

On July 24, 2002, prior to the initiation of on-site well pumping, the static water level at 23 of the 24 on-site wells was measured three times at each well location with a decontaminated electric water level indicator (sounder) and recorded. The measurements collected in the wells were identical, therefore, there was no need to collect additional measurements or average the data of these wells. The results of these measurements are shown in Table 5-1 and discussed in Section 5. One well (MW-06A) was dry, and MW-02 was not measured due to its proximity to MW-12S.

The water level in each well was also measured immediately prior to initiating well evacuation procedures for calculation of well purge volume. During measurement, the measuring (reference) point used was noted (i.e., the top of the steel casing), and the depth to water below the reference point was measured to the nearest 0.01 foot and recorded in the field logbook. Wellhead elevation data was used with depth to water measurements to calculate groundwater elevation at each well location.

The total depth of each well sampled was also measured with the sounder to the nearest 0.1 foot. The amount of fill material in the bottom of the well was calculated from well construction data and noted in the logbook. Prior to first use, the sounder was calibrated and the meter response checked. The sounder probe and line were decontaminated after each use.

2.1.4 Purge Volume Determination/Well Evacuation

Saturated casing volume was calculated at each well by using the depth to water and bottom sounding measurements obtained immediately prior to purging, to calculate the amount (height) of the saturated well casing. The inside diameter of the casing was then measured, and the following formula applied:

$$\text{Volume} = \pi\ (\text{radius}^2) \times \text{height}$$

A minimum of three saturated casing volumes of water was evacuated from each well prior to collecting a groundwater sample for laboratory analysis.

During the July 2002 sampling round, all 14 of the wells currently monitored were purged using a portable Grundfos 2-inch diameter submersible pump, and each well was sampled using a new disposable bailer.

Field parameters were measured during well evacuation using Myron-L multimeter and Hach turbidity meter for all wells. These instruments were calibrated or field checked prior to use with standard solutions in accordance with manufacturer's directions. The instruments are used to determine the stability of discharge water field parameters prior to collection of a sample for laboratory analysis.

Periodically during well evacuation, the field parameters of the discharge water were measured and recorded in the logbook. The physical appearance of the water (turbidity, color, sediment content, etc.) was also noted and recorded. Initial field turbidity measurements generally ranged from 17 to greater than 10,000 NTUs (nephelometric turbidity units) at the start of well evacuation. At the end of well evacuation, measurements were generally less than 10 NTUs. Higher turbidity at the start of purging seems to be related to agitating the water column and resuspending material from the bottom of the well during pump installation. After a minimum of three saturated casing volumes of water were evacuated from each well and the field parameters stabilized (change between readings of less than 5 to 10 percent), a sample for laboratory analysis was collected.

All purge water collected from each well was contained in a 250-gallon truck-mounted portable tank and then discharged directly into the PTI facility's wastewater treatment system.

2.1.5 Sample Collection and Handling

Groundwater samples were collected with a new disposable bailer from the approximate middle of the perforated section, and poured directly into previously labeled sample bottles. During sample collection, the bailer was carefully and gently lowered past the air/water interface to minimize agitation and aeration of water during sample collection. The sample bottles were placed inside plastic zip-lock bags and then placed immediately into an ice-cooled chest. Prior to shipment, the bottles were cushioned with bubble wrap or plastic bags to avoid breakage. Samples collected for total metals analysis were field filtered using a 0.45-micron filter. A volume of groundwater equal to two times the capacity of the filtering device was passed through the filter and discarded prior to filtering each sample for total dissolved metals (Cd, Cu, and Cr) analysis. Filters were discarded after each use.

- The July 2002 groundwater samples were collected for laboratory analysis of the following parameters:
- Volatile Organic Compounds by EPA method 8260
- Metals (Cd, Cu, and Cr) EPA method 6010

- Hexavalent Chromium (Cr^{+6}) EPA method 7199
- pH

Groundwater sample bottles were numbered using the following format:

PTI-MW01S-054

Where:

PTI	-	designates site acronym
MW01S	-	designates sample location number (MW = Monitoring Well)
EB	-	designates equipment blank sample
TB	-	designates travel blank sample
053	-	designates sequential sample number (per sampling event)

This was the 53rd round of sampling conducted by CDM, however, due to a previous labeling inconsistency, a 054 sequence number was assigned to all groundwater samples collected during this round. Sample label information included date and time of sampling, CDM sample number, and analytical parameters.

Chain-of-custody forms that indicated the label information as well as the responsible person during each step of the transportation process accompanied all filled sample containers that were collected from each well. All samples were sent by courier to Severn Trent Laboratories (STL) in Santa Ana, California on the day that they were collected, and a copy of the chain-of-custody form for that day was retained by CDM field personnel. Copies of completed chain-of-custody forms are included in Appendix C. The laboratory was notified at the time of delivery that one or more hexavalent chromium (Cr+6) sample(s) were contained in the shipment to ensure that the samples would be analyzed within the prescribed 24-hour holding period.

2.2 Equipment Decontamination Procedures

The following sections describe the procedures utilized to decontaminate groundwater-sampling equipment.

2.2.1 Sampling Pump/Lines Decontamination

The submersible pump and discharge tubing used for well purging were decontaminated to reduce the possibility of cross-contamination between monitoring wells. The first step in the decontamination procedure was to submerge the pump into a 4-foot section of 4-inch diameter PVC pipe containing a soap (Alconox, a laboratory-grade detergent) and water mixture. Then, at least five gallons of the solution were pumped through the system. The pump assembly was then submerged in another section of PVC pipe filled with tap water and at least 10 gallons were pumped through the system. The final decontamination step was accomplished by submerging the pump into another section of PVC pipe containing deionized (DI) water and pumping approximately five gallons of DI water through the system.

The exterior of the pump and discharge tubing was steam cleaned, as well as the exterior of the reel holding the tubing. The decontamination of the exterior pump line was performed over a stainless steel containment basin located on the groundwater-sampling rig. The spent water was recovered and discharged into the facility's wastewater treatment system.

2.2.2 Accessory Sampling Equipment Decontamination

Accessory sampling equipment such as the water level sounder was also decontaminated to minimize the possibility of cross-contamination between the monitoring wells. The sounder was decontaminated first by washing in a bucket of soap and water, followed by a tap water rinse, followed by a final DI water rinse. Bailers used to test for an immiscible layer were decontaminated and reused. The bailers and nylon rope that were used to sample wells were discarded immediately after use.

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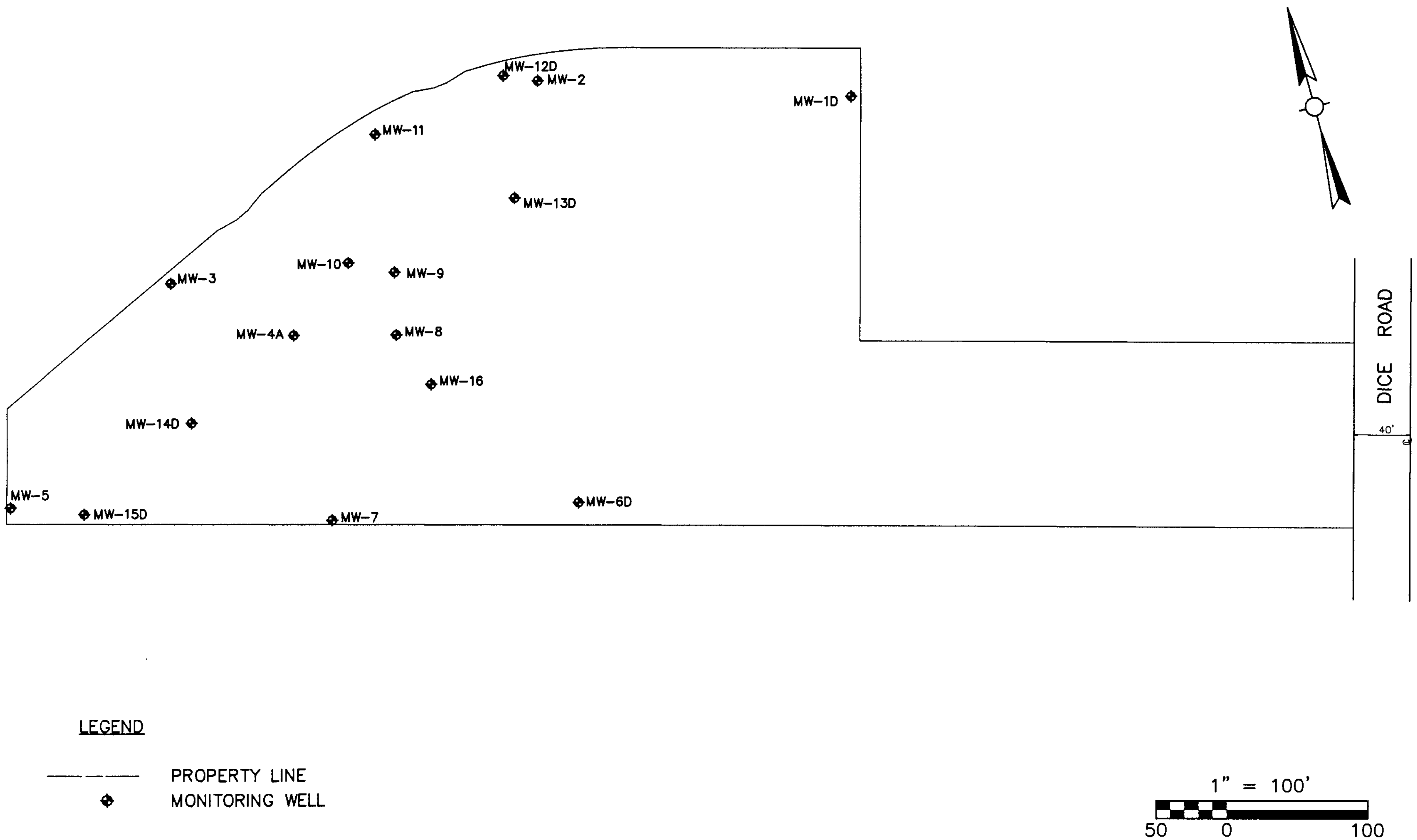

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Monitoring Well Location Map

CDM

Figure 2-1

Table 2-1
PHIBRO-TECH, INC.
Groundwater Monitoring Program Summary

Sampling Event	Indicator Parameters	Trace Metals	Hexavalent Chromium	Chloride	Nitrate	Volatile Organics	Appendix IX	1,4-Dioxane	Comments
3/85	Quad	Cu & Zn	X	X	X	--	--	--	Sampled wells MW-1, 2, 3, 4, 5, & 6B. Sulfide, nickel, copper and zinc requested by DOHS and RWQCB. Also Appendix III parameters and water quality parameters (see footnote).
7/85	Quad	Cd, Cr	X	--	X	--	--	--	Sampled wells MW-4A, 7, 8, 10 and 11
3/86	Quad	Cu & Zn	X	X	X	--	--	--	Sampled 12 wells (MW1, 2, 3, 4, 4A, 5, 6B, 7, 8, 9, 10 & 11). Also Appendix III parameters and water quality parameters (see footnote).
7/86, 9/86, 12/86	Quad	Cd, Cr, Cu, Zn	X	X	X	624	--	--	Sampled all 12 wells (as previous)
3/87	Quad	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	Sampled 11 wells, not 4A
7/87, 10/87, 2/88	Quad	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	After July 1987, all 12 wells were sampled during each event
6/88	X (not Quad)	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	Performed statistical analysis (t-test) on Indicator Parameters (IPs).
9/88	--	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	IPs & volatile organics from MW1, 2, 4A, 5, 6, 7 analyzed semi-annually in June/Dec.
1/89	Quad	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	After Jan. 1989, volatile organics analyzed for all 12 wells.
4/89	--	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	
7/89	Quad	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	Performed statistical analysis of Jan. thru July 1989 data (IPs, total and hexavalent chromium).
10/89	--	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	
1/90	Quad	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	
4/90	--	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	

TABLE 2-1
PHIBRO-TECH, INC.
Groundwater Monitoring Program Summary
(continued)

Sampling Event	Indicator Parameters	Trace Metals	Hexavalent Chronium	Chloride	Nitrate	Volatile Organics	Appendix IX	1,4-Dioxane	Comments
7/90	Quad	Cd, Cr, Cu, Zn	X	X	X	601/602	--	--	Performed statistical analysis of Jan. 1989 data (IPs, total and hexavalent chromium).
10/90	--	Cd, Cr, Cu, Fe, Ni, Pb, Zn	X	X	X	601/602	X	--	Sampled 22 wells, Appendix IX parameters analyses were performed on wells 4, 4A, 6B, 6D, 12S, 12D, 15S, 15D, plus a duplicate of 4.
1/91	Quad	Cd, Cr, Cu, Fe, Ni, Pb, Zn	X	X	X	601/602	--	--	Sampled 22 wells.
4/91	pH	Cd, Cr, Cu	X	--	--	601/602	--	--	New sampling program was initiated. Sampled 11 wells including wells MW-01S, MW-01D, -03, -04, -04A, -07, -09, -11, -14S, -15S, -15D.
7/91	pH	Cd, Cr, Cu	X	--	--	601/602	--	--	Performed annual statistical analysis.
10/91	pH	Cd, Cr, Cu	X	--	--	601/602	--	--	
1/92	pH only (all) TOC only (MW-01 & -04)	Cd, Cr, Cu	X	--	Ammonia as nitrogen (MW-01 & -04)	601/602	--	--	Ammonia & TOC analyses added at MW-01S and MW-04.
4/92	pH only TOC only (MW-01 , -04, -09, -14S)	Cd, Cr, Cu-all see comments	X	--	Ammonia as nitrogen (MW-01, -04, -09, -14S)	601/602	EDB (MW-04) TPH (W-16)	--	Sampled 14 wells including Wells MW-01S, -01D, -03, -04, -04A, -06B, -06D, -07, -09, -11, -14S, -15S, -15D, -16. Additional analysis as part of Phase II RFI; unfiltered metals on MW-04S and -14S. Pb and Ni on wells 1, 4, 14S, 15S, 16; Fe, Zn on well 16.
7/92	pH	Cd, Cr, Cu	X	--	--	601/602	--	--	Sampled 14 wells. Performed annual statistical analysis.
10/92	pH	Cd, Cr, Cu	X	--	--	601/602	--	--	Sampled 14 wells.

TABLE 2-1
PHIBRO-TECH, INC.
Groundwater Monitoring Program Summary
(continued)

Sampling Event	Indicator Parameters	Trace Metals	Hexavalent Chromium	Chloride	Nitrate	Volatile Organics	Appendix IX	1,4-Dioxane	Comments
1/93, 4/93	pH	Cd, Cr, Cu	X	--	--	8010/8020	--	--	Sampled 14 wells.
7/93	pH	Cd, Cr, Cu	X	--	--	8010/8020 (TVPH, TEPH)	--	--	Sampled 15 wells. (MW-13S was added) TVPH and TEPH analysis on MW-09, 13S, and 16 only. Performed annual statistical analysis.
10/93	pH	Cd, Cr, Cu	X	--	--	8010/8020	--	--	Sampled 15 wells (MW-13S not analyzed for metals and pH) TVPH & TEPH analysis on MW-04, 07, 09, 13S, and 16 only. Performed statistical analysis.
1/94, 4/94	pH	Cd, Cr, Cu	X	--	--	8010/8020	--	--	Sampled 14 wells Performed statistical analysis.
7/94	pH	Cd, Cr, Cu	X	See comment	--	8010/8020	--	--	Sampled 14 wells, chloride and sulfate analyses on MW-04, MW-09, MW-14S, MW-15S, MW-15D, and MW-16. Performed statistical analysis
10/94, 1/95, 4/95, 7/95, 10/95	pH	Cd, Cr, Cu	X	--	--	8010/8020	--	--	Sampled 14 wells Performed statistical analysis.
1/96	pH	Cd, Cr, Cu	X	--	--	8010/8020	--	--	Sampled 14 wells Performed statistical analysis. 1995 Annual Report included as Appendix F.
4/96, 7/96	pH	Cd, Cr, Cu	X	--	--	8010/8020	--	--	Sampled 14 wells Performed statistical analysis.

TABLE 2-1
PHIBRO-TECH, INC.
Groundwater Monitoring Program Summary
(continued)

Sampling Event	Indicator Parameters	Trace Metals	Hexavalent Chromium	Chloride	Nitrate	Volatile Organics	Appendix IX	1,4-Dioxane	Comments
10/96	pH	Cd, Cr, Cu	X	--	--	8010/ 8020	--	--	Sampled 14 wells Performed statistical analysis. 1996 Annual Report included as Appendix F.
1/97	pH	Cd, Cr, Cu	X	--	--	8260, MTBE	--	--	Sampled 14 wells Performed statistical analysis.
4/97, 7/97	pH	Cd, Cr, Cu	X	--	--	8260	--	--	Sampled 14 wells Performed statistical analysis.
10/97	pH	Cd, Cr, Cu	X	--	--	8260	--	--	Sampled 14 wells Performed statistical analysis. 1997 Annual Report included as Appendix F.
1/98	pH	Cd, Cr, Cu	X	--	--	8260	--	--	Sampled 14 wells Performed statistical analysis. Hexavalent Chromium by Method 7196 in all wells; and by Method 218.6 in wells MW-4A, MW-14S, MW-15S, and MW-15D.
4/98, 7/98	pH	Cd, Cr, Cu	X	--	--	8260	--	--	Sampled 14 wells Performed statistical analysis.
10/98	pH	Cd, Cr, Cu	X	--	--	8260	--	--	Sampled 14 wells Performed statistical analysis. 1998 Annual Report included as Appendix F.
1/99, 4/99, 7/99, 10/99, 01/00, 04/00, 10/00, 04/01	pH	Cd,Cr,Cu	X*	--	--	8260	_	--	Sampled 14 wells Performed statistical analysis. Monitoring and reporting frequency changed from quarterly to semi-annually in April 2000. Monitoring and reporting frequency changed back from semi-annually to quarterly in April 2001.

TABLE 2-1
PHIBRO-TECH, INC.
Groundwater Monitoring Program Summary
(continued)

Sampling Event	Indicator Parameters	Trace Metals	Hexavalent Chromium	Chloride	Nitrate	Volatile Organics	Appendix IX	1,4-Dioxane	Comments
07/01, 10/01	pH	Cd,Cr,Cu	X*	--	--	8260	_	MW-015 MW-04 MW-09 MW-11 MW-06D MW-15D	Sampled 14 wells Performed statistical analysis. 2001 Annual Report included as Appendix G (10/01) 1,4-Dioxane sampled in selected wells (MW-01S, MW-04, MW-04A, MW-06D, MW-11, and MW-15D) during 07/01 and 10/01.
1/02, 4/02, 7/02	PH	Cd,Cr, Cu	X	-	-	8260	-	-	Sampled 14 wells Performed statistical analysis.

Appendix III Parameters - As, Ba, Cd, Cr, F, Pb, Hg, N, Se, Ag, Endrin, Lindane, Methoxychlor, Toxaphene, 2,4-D, 2,4,5-TP (Silvex), Radium, Gross Alpha & Beta, Turbidity, coliform bacteria.
Water Quality Parameters - Cl, Fe, Mn, Phenols, Na, SO4
Indicator Parameters (IP) - TOX, TOC, pH, EC (quadruplicate)
624 - Volatile organics analysis
601/602 - Purgeable halocarbons/aromatics analysis
8010/8020 - Purgeable halocarbons/aromatic analysis
8260 - Purgeable halocarbons/aromatic analysis
MTBE - Methyl tertiary butyl ether
Appendix IX Parameters - See Appendix F in the October 1990 Quarterly Sampling Report for a complete listing of parameters.
* - Analytical method changed from EPA 7196 to 7199 beginning with the October 2000 Sampling Event

Section 3
Laboratory Testing

STL Analytical of Santa Ana, California provided testing of the 23 aqueous samples collected during the July 2002 monitoring event. Fourteen monitoring well samples, two blind duplicate samples from MW-04 and MW-09, and one DI sample were collected and submitted to STL for analysis of purgeable halocarbons/aromatics (EPA Method 8260). In addition, three equipment blank samples (EB) were submitted for analysis of the above parameters. Three travel blanks (TB) were also submitted each day to STL for analysis of purgeable halogenated/aromatic organics.

July 2002 groundwater analytical results are discussed in Section 6 and summarized in Tables 6-1 and 6-2. Quality assurance analytical results (duplicates, equipment blanks, and travel blanks) are discussed in Section 4.0 and summarized in Table 4-1. Individual analytical reports for July 2002 are contained in Appendix C.

Section 4
Quality Assurance

To verify the accuracy and validity of analytical data, certain quality assurance procedures were implemented. The field and laboratory quality assurance results were checked for deviations from the Quality Assurance (QA) guidelines discussed in the RFI Work Plan.

4.1 Field Quality Assurance

The field QA procedures included the use of duplicate samples, equipment blanks, travel blanks, and the use of chain-of-custody forms. The results of the QA analyses have been compiled in Table 4-1. Detection limits of parameters analyzed are shown in the analytical reports contained in Appendix C. Relative Percent Difference (RPD) between original and duplicate samples is also listed in Table 4-1.

4.1.1 Duplicate Samples

Standard accepted practice is to submit one duplicate sample for analysis for approximately every tenth sample collected; a ratio of 1 to 10. During the July 2002 round of sampling, duplicate samples were collected from monitoring wells MW-04 and MW-09. The duplicate samples were submitted to the analytical laboratory as blind samples, and were designated MW-37 and MW-39, respectively, on the chain of custody forms. Monitoring wells MW-04 and MW-09 were selected due to elevated concentrations of certain contaminants detected during previous sampling rounds. Analytical results for the duplicate samples for July 2002 are shown in Table 4-1.

Laboratory results for the samples collected from well MW-09 indicated original sample concentrations of 1,1-DCE deviated from its corresponding duplicate sample concentrations by greater than 20 percent (Table 4-1). However, the concentrations are well within the same order of magnitude. No other deviations greater than 20 percent were found in any of the duplicate samples.

4.1.2 Equipment Blanks

Equipment blank EB-01 was obtained by allowing the deionized water to run through a new, precleaned, disposable bailer after sampling well MW-07. The purpose of this equipment blank was to evaluate and ensure the effectiveness of factory cleaning of the disposable bailer. Equipment blanks EB-02 and EB-03 were obtained by allowing deionized water to run off the decontaminated submersible pump that was used to pump the groundwater samples for the entire July 2002 sampling event, after sampling wells MW-01D and MW-04A, respectively. The purpose of these two equipment blanks was to assure that the pump was being sufficiently decontaminated between wells. The samples were collected in the appropriate containers and submitted for laboratory analysis of volatile organic compounds (EPA Method 8260), cadmium, chromium (total and hexavalent), copper, and pH. The laboratory provided water used for the collection of the equipment blanks.

Analytical results for the equipment blanks collected during July 2002 are shown in Table 4-1. Aside from a random detection of methylene chloride in the July 24 sample, analytical results did not indicate any compound above method detection limits in the equipment blanks.

4.1.3 Travel Blanks

The detection of compounds in travel blanks is generally indicative of systematic contamination from sample transport, laboratory glassware cleaning, laboratory storage, or analytical procedures. During the July 2002 sampling event, three laboratory-prepared travel blanks (TB01 through TB-03) consisting of organic-free water were labeled and submitted to the laboratory for volatile organic compound analysis by EPA Method 8260. The travel blanks were placed inside the cooler containing samples for volatile organic compounds.

Table 4-1 shows the results of the travel blank analyses. No compounds were detected above the method reporting limits.

4.1.4 Sample Control

All sample containers were labeled immediately prior to sampling with the sample identification information completed with a waterproof pen. Samples were transported under chain-of-custody and hand delivered by courier to the laboratory in ice-cooled chests. Copies of the chain-of-custody records are included in Appendix C.

4.2 Laboratory Quality Assurance

STL provides internal laboratory QA/QC results with each sample analytical report. Matrix spike, matrix spike duplicate, method blank, and duplicate control sample results are noted in the QA/QC reports. In addition, surrogate recoveries are also noted for volatile organics analyses. The laboratory QA/QC results were within acceptable limits for the July 2002 sampling. The laboratory control sample results were also within acceptable limits.

Table 4-1
Phibro-Tech, Inc.
Groundwater Analytical Results - July 2002
Field Quality Control Sample Analytical Summary

Well ID	Sample Date	Sample Type	Metals (mg/L)				VOCs (ug/L)											
			Cadmium	Chromium	Cr+6	Copper	Benzene	Toluene	Ethyl-benzene	Xylenes, Total	PCE	TCE	1,1-DCE	1,1-DCA	1,2-DCA	CFM	cis-1,2-DCE	MCL
MW-04	07/25/2002		0.5	32.7	25.1	0.12 U	7.7	5 U	220	328	5 U	210	110	180	32	18	210	85
		K	0.49	29.8	30.5	0.12 U	7.6	5 U	200	317	5 U	210	110	170	32	18	200	84
		RPD	2 %	9.28 %	19.4 %		1.3 %		9.52 %	3.41 %		0 %	0 %	5.71 %	0 %	0 %	4.88 %	1.2 %
MW-09	07/26/2002		0.005 U	9.1	10	0.025 U	25 U	25 U	25 U	50 U	25 U	480	89	320	340	150	25 U	280
		K	0.005 U	9.3	10.2	0.025 U	10 U	10 U	10 U	20 U	10 U	570	130	360	380	170	13	320
		RPD		2.2 %	2 %							17.1 %	37 %	11.8 %	11.1 %	12.5 %		13.3 %
DI	07/24/2002	N	0.005 U	0.01 U	0.001 U	0.025 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
EB	07/24/2002	N	0.005 U	0.01 U	0.001 U	0.025 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.2
	07/25/2002	N	0.005 U	0.01 U	0.001 U	0.025 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	07/26/2002	N	0.005 U	0.01 U	0.001 U	0.025 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TB	07/24/2002	TB					1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	07/25/2002	TB					1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
	07/26/2002	TB					1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Notes:

PCE = Tetrachloroethene; TCE = Trichloroethene; DCE = Dichloroethene; DCA = Dichloroethane; CFM = Chloroform; MCL = Methylene chloride.

U = Not detected at a concentration greater than the reporting limit shown.

Sample Type:
K = Duplicate (split) Sample
TB = Trip Blank
N = Equipment Decontamination Blank
RPD = Relative Percent Difference between original and duplicate samples (%)

Section 5
Groundwater Elevation

On July 24, 2002 prior to the initiation of well evacuation procedures, the depth to groundwater was measured in 23 of the 24 on-site monitoring wells. Groundwater elevations were calculated by subtracting the depth to static water level from the surveyed elevation of the corresponding monitoring well.

All of the monitoring well casing elevations were surveyed during the RFI and three wells (MW-04, MW-09, and MW-10) were resurveyed in January 1996 following wellhead repair. In July 1998, wellhead repairs were performed on wells MW-03, MW-06A, MW-06B, MW-06D, MW-08, MW-11, MW-12S, MW-12D, MW-13S, MW-13D, and MW-16. These wells were resurveyed during the July 1998 monitoring event. During the April 2000 monitoring event, two additional wellheads were repaired (MW-14S and MW-14D). Wells MW-14S and MW-14D were resurveyed during September 2001.

During the July 2002 sampling event, water level measurements were taken at shallow wells MW-01S, MW-03, MW-04, MW-05, MW-06B, MW-07, MW-08, MW-09, MW-10, MW-11, MW-12S, MW-13S, MW-14S, MW-15S, and MW-16. Water level measurements were also taken at deep wells MW-01D, MW-04A, MW-06D, MW-12D, MW-13D, MW-14D, and MW-15D. These wells were measured to evaluate the direction and gradient of groundwater flow underlying the facility and to help characterize the shallow and deep aquifer interaction. Well MW-02 was not measured due to its proximity to MW-12S. Well MW-06A was measured and found to be dry.

Table 5-1 lists the depths to water and groundwater elevations for each well sampled. Figure 5-1 shows the approximate groundwater surface elevation of the upper Hollydale Aquifer for wells screened in the shallow interval (45 to 77 feet below ground surface) using data collected during the July 2002 sampling round. The contours shown in Figures 5-1 and 5-2 were generated by D.C.A., a surface contouring software developed by Softdisk, which is commonly used in conjunction with CADD (Computer Aided Drafting and Design) to produce contour maps and other graphics.

The direction of groundwater flow in the shallow monitoring wells is approximately southwest at an average gradient of 0.39 feet per 100 feet in the western portion of the facility, where the majority of the monitoring wells are located. The gradient in the shallow wells is comparable to the April 2002 sampling event, which had a gradient of 0.40 feet per 100 feet.

Figure 5-2 shows the approximate groundwater elevation of the lower Hollydale Aquifer for wells screened in the deeper interval (78.3 to 123.5 feet below ground surface). Groundwater contours for the deeper wells follow the same general trend as those of the shallow wells, with a direction of groundwater flow towards the southwest at an average gradient of 0.38 feet per 100 feet.

With the 23 wells measured for water levels during the July 2002 sampling round, there were seven locations where a deep well was measured adjacent to a shallow well. Shallow wells are screened within the interval of 45 to 77 feet bgs. Deep wells are screened within the interval of 78.3 to 107 feet bgs, with the exception of MW-15D, which is screened from 108.5 to 123.5 feet bgs. Of the well pairs, groundwater elevations at deep wells MW-12D, MW-13D, MW-14D, and MW-15D were slightly lower (0.02 feet to 0.16 feet) than the corresponding shallow well elevations. The groundwater elevations at deep wells MW-04A and MW-06D were slightly higher (0.03 feet to 0.13 feet) than the corresponding shallow well elevations. Well MW-01D had the same groundwater elevation as MW-01S. Based on these and past groundwater elevation comparisons among shallow and deep well pairs, it does not appear that a well-defined vertical gradient between shallow and deep intervals exists.

Average groundwater elevations during the July 2002 sampling event decreased compared to the previous sampling event by an average of 4.35 feet. The maximum groundwater elevation decrease occurred in well MW-14D, which increased by 4.53 feet.

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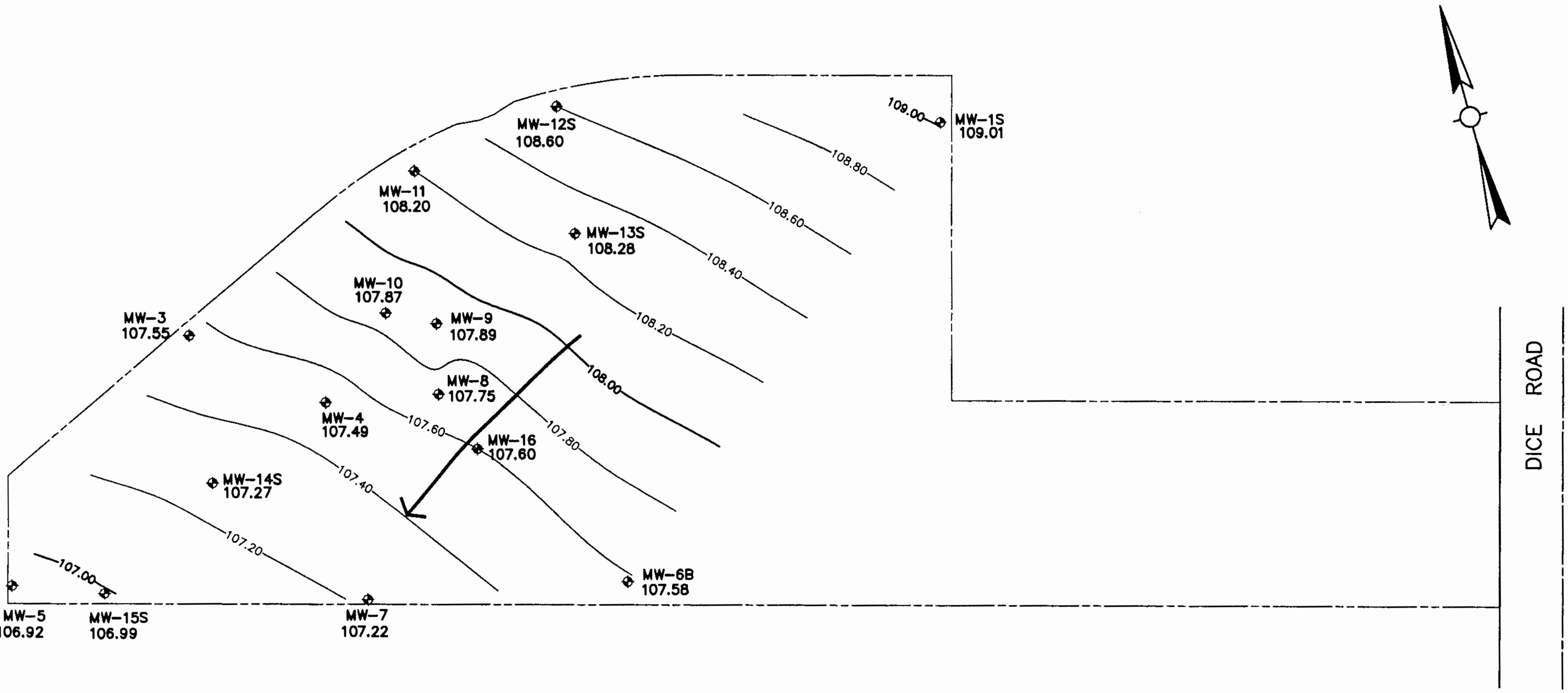

LEGEND

——— - ———	PROPERTY LINE
⊕	MONITORING WELL
106.92	GROUNDWATER ELEVATION (Feet Above MSL)
—108.00—	GROUNDWATER ELEVATION CONTOUR LINE (Feet Above MSL)
←	GROUNDWATER FLOW DIRECTION

1" = 100'

50 0 100

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Groundwater Elevation Contours - Shallow Wells
July 2002

CDM

Figure 5-1

DATE: Sep 27, 2002 2:23pm XREFS:
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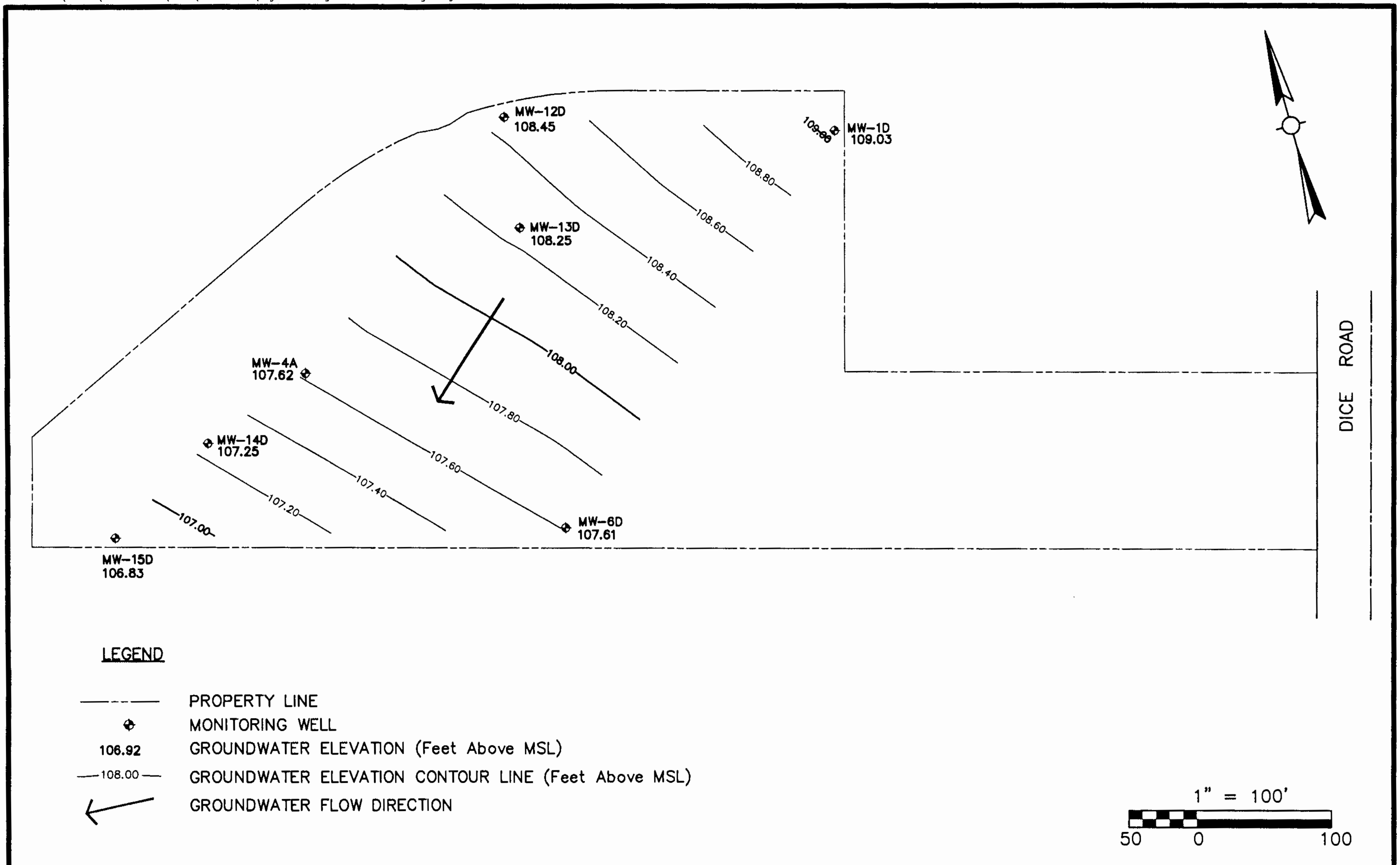

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Groundwater Elevation Contours - Deep Wells
July 2002

CDM

Figure 5-2

TABLE 5-1
PHIBRO-TECH, INC.
July 2002 Quarterly Monitoring Well Sampling
Groundwater Elevation Data

Well No.	Well Headspace* (ppm)	Total Depth Constructed (ft) (bgs)	Total Depth Measured (ft) (bgs)	Perforated Intervals (ft)	Calculated Casing Fill (ft)	M.P. Elevation (ft)	Depth to Water (ft below MP)	Groundwater Elevation (ft above MSL) July 2002	Groundwater Elevation (ft above MSL) April 2002
1S	1.1 / 0.0	62.5	62.3	47-62.5	0.2	152.63	47.79	104.84	109.01
1D	0.3 / 0.0	94.8	96.0	79.5-94.5	---	152.60	47.76	104.84	109.03
3	6.1 / 0.1	74.1	73.3	45-75	0.8	154.75	51.67	103.08	107.55
4	0.8 / 0.0	67.5	70.5	45-75	---	152.37	49.27	103.10	107.49
4A	0.0 / 0.0	107.0	106.8	87-107	0.2	152.46	49.27	103.19	107.62
5	0.1 / 0.1	75.0	73.3	45-75	1.7	153.26	50.77	102.49	106.92
6A	116.0 / 0.0	---	29.2	10-30	---	---	---	Dry	Dry
6B	0.0 / 0.0	77.6	76.4	45-75	1.2	149.53	46.09	103.44	107.58
6D	0.0 / 0.0	95.5	92.9	79-94	2.6	150.13	46.65	103.48	107.61
7	0.8 / 0.0	71.5	71.2	45-75	0.3	149.42	46.46	102.96	107.22
8	0.6 / 0.0	71.0	70.3	41-71	0.8	150.17	46.73	103.44	107.75
9	6.1 / 0.0	73.5	72.8	44-77	0.7	152.96	49.45	103.51	107.89
10	0.0 / 0.0	75.0	76.4	45-75	---	153.89	50.38	103.51	107.87
11	3.2 / 0.0	75.5	75.1	55-75	0.4	155.76	52.00	103.76	108.20
12S	42.7 / 0.0	72.0	74.8	51-72	---	155.79	51.59	104.20	108.60
12D	0.6 / 0.0	101.0	99.7	84.5-100	1.3	155.72	51.65	104.07	108.45
13S	3.4 / 0.0	70.3	69.3	50.3-70.3	1.0	151.72	47.78	103.94	108.28
13D	0.3 / 0.1	93.3	93.8	78.3-93.3	---	151.68	47.76	103.92	108.25
14S	19.0 / 0.0	71.5	71.0	46-72	0.5	150.54	47.70	102.84	107.27
14D	0.0 / 0.0	109.0	104.0	88-103	5.0	150.60	47.88	102.72	107.25
15S	0.1 / 0.1	71.5	71.0	51.5-71.5	0.5	151.01	48.44	102.57	106.99
15D	0.0 / 0.0	123.8	123.8	108.5-123.5	0.0	150.96	48.60	102.36	106.83
16	0.8 / 0.0	62.5	62.2	42-62	0.3	150.27	46.96	103.31	107.60

M.P. = Measuring point (top of steel casing)
--- = Not measured or not calculated.
bgs = below ground surface
ppm = parts per million

MSL = mean sea level
* Measured with PID prior to sampling (casing/background).
Note: Depth to water measurements collected on July 24, 2002 prior to purging/sampling on-site wells.

Section 6
Groundwater Quality

In order to compare the analytical data with the previous sampling events (1989 through April 2001 quarterly events), historical sampling results were compiled and presented in Appendix B. The Appendix B tables summarize selected groundwater analytical parameters (hexavalent and total chromium, cadmium, copper, purgeable aromatics and trichloroethene) and groundwater elevations at shallow-well and deep-well locations sampled prior to April 2001. Analytical results for the period from July 2001 to the present are summarized in Tables 6-1 and 6-2 in Appendix B. Laboratory analytical reports from all wells sampled during the July 2002 sampling round are located in Appendix C.

Consistent with the results of laboratory testing performed on the groundwater samples collected since January 1989 from the on-site monitoring wells, three contaminant plumes in the Hollydale Aquifer were identified. Historically, these plumes have been present at varying concentrations and lateral extent. One small plume, consisting primarily of chromium, has been aligned in a northeasterly to southwesterly direction in the vicinity of wells MW-04 and MW-14S. The second, consisting of purgeable aromatics, has also been aligned in a northeasterly to southwesterly direction with the highest concentrations generally found in wells MW-04, MW-14S, and MW-09. The third plume consists of TCE and related parameters with highest concentrations generally detected in wells MW-04, MW-09, MW-11, and MW-14S.

6.1 Halogenated Volatile Organic Compounds

Table 6-1 shows the analytical results for deep and shallow wells sampled during July 2002. TCE was the primary compound detected, with miscellaneous other halogenated organics also detected. The table also shows, for comparison purposes, maximum contaminant limits (MCLs) where established.

Trichloroethene (TCE)

TCE was detected in all 14 of the groundwater monitoring wells sampled. The highest concentration of TCE detected was 1,500 μg/L in well MW-11, an increase from the result of 1,300 μg/L in the previous quarter. Analyses of samples from six recent previous consecutive sampling events (April 2000, October 2000, April 2001, October 2001, April 2002, and July 2002) indicated all time highs for this well, which is located along the northern boundary of the site. The TCE detected in well MW-11 likely originated from an off-site up gradient source. The second highest concentration of TCE detected was 480 μg/L in well MW-09, an increase from the result of 140 μg/L in April 2002. Of the 14 wells sampled, ten wells contained concentrations of TCE that exceeded the MCL of 5 μg/L.

Concentrations of TCE detected in shallow and deep wells are shown on Figures 6-1 and 6-2, respectively. Compared to April 2002, TCE concentrations increased in seven of the ten shallow wells sampled. Excluding MW-11 and MW-09, TCE concentrations ranged from 2.8 µg/L (MW-01D) to 260 µg/L (MW-03). Shallow wells that had decreases in TCE concentration compared to April 2002 were MW-03 and MW-04.

TCE concentrations decreased in three of the four deep wells sampled, compared with the April 2002 results. Deep-well TCE concentrations ranged from 2.8 µg/L (MW-01D) to 7.1 µg/L (MW-04A) in July 2002.

A review of the historical analytical results contained in Appendix B reveals that, with minor exceptions, TCE has historically been detected in all on-site monitoring wells, including the up gradient wells. Past discussions with Department of Health Services (now Cal EPA DTSC) and Regional Water Quality Control Board staff indicate that TCE and other halogenated organic are generally recognized as regional groundwater contaminants.

Other Halogenated Organics

During the July 2002 sampling, other halogenated organics were detected in most of the on-site wells (Table 6-1). Halogenated organics detected in July 2002 other than TCE included 1,1-dichloroethane (1,1-DCA), 1,2-DCA, tetrachloroethene (PCE), 1,1-dichloroethene (1,1-DCE), carbon tetrachloride, cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene, chloroform, and methylene chloride. Wells with significant concentrations of halogenated organic compounds included MW-04, MW-07, MW-09, MW-11, and MW-14S.

1,1-DCA was detected in eight of the wells sampled, with concentrations ranging from 6.1 µg /l in MW-04A to 410 µg/L in MW-11. The MCL for 1,1-DCA is 5 µg/L. Compared with April 2002, concentrations of 1,1-DCA increased in seven of the wells that had detectable concentrations.

1,2-DCA was also present above reporting limits in five of the sampled wells, with concentrations ranging from 3.0 µg /l in MW-15S to 340 µg/L in MW-09. The MCL for 1,2-DCA is 0.5 µg/L.

Detectable concentrations of cis-1,2-DCE occurred in five of the wells sampled in July 2002. Overall, concentrations ranged from 1.8 µg /l in MW-01S to 210 µg/L in MW-04. The MCL for cis-1,2-DCE is 6 µg/L.

The compounds PCE, 1,1-DCE, 1,1,1-TCA, carbon tetrachloride, chloroform and methylene chloride were also detected in several wells. Detections of these other halogenated organic compounds are assumed to be related to the TCE plume. The presence of trans-1,2-dichloroethene could be a result of anaerobic degradation of TCE.

6.2 Aromatic Volatile Organic Compounds

According to PTI personnel, organic chemicals have not historically been used on-site in any of the production processes. Two 10,000-gallon underground storage tanks (containing diesel and gasoline), however, were located in the approximate center of the facility, due east of the drum wash area. During tank removal activities in July 1989, petroleum hydrocarbon contamination was discovered in the tank excavation. The RFI report indicated that petroleum hydrocarbon contamination was not detected at depths below 30 feet near the former tank locations. Although they have not been used on-site, aromatic compounds have been historically detected in groundwater underlying the facility. The primary aromatic organic compounds of concern are toluene, ethylbenzene and total xylenes, which vary in both concentration and lateral extent. The RFI report indicated that these compounds appeared to be migrating onto the subject property from the property to the north. According to Los Angeles County Department of Public Works files, leaks from tanks containing purgeable aromatic compounds with subsequent groundwater contamination are known to have occurred at the property to the north of PTI.

Aromatic volatile organic compound results for July 2002 are presented in Table 6-1. Concentrations of total aromatics (BTEX) for the shallow wells are illustrated on Figure 6-3. Historic sampling results indicate that purgeable aromatic contamination originated off-site to the north and has migrated onto the subject property. During previous sampling events, elevated concentrations of toluene, ethylbenzene and xylenes were detected in MW-11 and MW-03 along the northern perimeter of the property.

Since approximately July 1991, elevated concentrations of these compounds have been detected in wells MW-04 and MW-14S, indicating that the plume may be migrating down gradient. Total BTEX concentrations in MW-04 began to gradually decrease in October 1998 until January 2000, at which time MW-04 had a total BTEX concentration of 11.1 µg/L. Concentrations began to increase in MW-04 between October 2000 until October 2001, when the total BTEX concentrations reached 6,500 µg/L. Since January 2002, concentrations have fluctuated up to 2,370 µg/L, but have decreased to 558 µg/L in July 2002.

In addition, relatively high BTEX concentrations have also been detected in well MW-09 beginning in January 1992. Ethylbenzene was detected at a concentration of 440 µg/L in MW-09 in July 2001 and 8.1 µg/L in October 2001. However, BTEX compounds in well MW-09 have remained below reporting limits since January 2002.

Results of the July 2002 sampling event indicate that the highest concentrations of total BTEX were detected in well MW-14S (Figure 6-3) at a concentration of approximately 910 µg/L. The only BTEX compound detected above reporting limits in MW-14S was ethylbenzene at 860 µg/L (the other BTEX components are assumed to be present at half of their reporting limits). BTEX concentrations in MW-04, which has the second highest total BTEX concentration of 558 µg/L, has decreased from 2,370 µg/L in April 2002.

Benzene

Of the 14 wells sampled in July 2002, only well MW-04 had a benzene concentration (7.7 µg/L) above the reporting limit (1.0 µg/L). In April 2002, only well MW-14S had a concentration above the reporting limit. Historical evidence indicates that benzene is not a contaminant of concern for the facility.

Toluene

During the July 2002 sampling, toluene was not detected above the reporting limit in any of the 14 wells sampled. Toluene occurs in most of the wells on site, but only sporadically. Significant toluene concentrations were detected during July 1990 to July 1991 (MW-11), July 1991 to January 1992 (MW-04), July 1992 to July 1993 (MW-09), and July 1994 to January 1995 (MW-09). Concentrations were also detected at location MW-04 during January 1993. Historically, elevated ethylbenzene and total xylene concentrations have generally been associated with elevated toluene concentrations.

Ethylbenzene

During the July 2002 sampling round, ethylbenzene was detected at concentrations greater than the reporting limit in MW-04 and MW-14S. The highest concentration of ethylbenzene (860 µg/L) was detected in MW-14S, which was an increase from April 2001, when the concentration was less than the reporting limit of 2 µg/L. This concentration exceeds the MCL, which is 700 µg/L. The second highest concentration of ethylbenzene (220 µg/L) was detected in MW-04, which is a decrease from 2,200 µg/L in April 2002. Since the last sampling event, ethylbenzene concentrations decreased in wells MW-11 and MW-04, and increased in well MW-14S. Well MW-04 had the largest ethylbenzene concentration as of the previous sampling event, but its concentration has fluctuated downward since the previous quarter.

Total Xylenes

Total xylenes were detected above the reporting limit in only one well during the July 2002 sampling event. In well MW-04, the concentration of total xylenes was 328 µg/L. Results from the previous event indicated that only wells MW-04 and MW-14S contained reportable concentrations of xylenes at concentrations of 170 and 3.8 µg/L, respectively.

6.3 1,4-Dioxane

Table 6-1 includes the analytical results for 1,4-Dioxane during the July and October 2001 sampling events, when groundwater samples from wells MW-01S, MW-04, MW-06D, MW-09, MW-11 and MW-15D were analyzed for 1,4-Dioxane. The highest concentration (140 µg/L) was detected during the October 2001 sampling event in well MW-01S, which represents the site's shallow up gradient well. 1,4-Dioxane analysis has not been performed since the October 2001 event.

6.4 Inorganic and Miscellaneous Parameters

Table 6-2 shows the analytical results for inorganic parameters (cadmium, total and hexavalent chromium, copper, and pH) for sampling events since July 2001.

Hexavalent Chromium (Cr^{+6})

During the July 2002 sampling, hexavalent chromium was analyzed using EPA Method 7199 with a reporting limit of 0.001 mg/L. Prior to the April 2001 sampling event, hexavalent chromium was analyzed using EPA Method 7196 with a reporting limit of 0.02 mg/L.

Hexavalent chromium was detected in ten of the fourteen wells sampled. Well MW-04 contained the highest concentration of hexavalent chromium at 25.1 mg/L. Well MW-04 also contained the highest concentration during the previous event, at 31 mg/L. The other reportable concentrations of hexavalent chromium ranged from 0.0018 mg/L (MW-01S) to 10 mg/L (MW-09) during July 2002. Figure 6-4 shows the concentrations of hexavalent chromium detected in the shallow wells during July 2002.

Water purged from MW-04 has typically been bright yellow in color since CDM began sampling the wells on a quarterly basis in January 1989. During the July 2002 sampling round, the color of water from MW-04 was again noted as yellow.

Figure 6-5 shows the concentrations of hexavalent chromium and groundwater elevations in MW-04 over time. The concentrations of hexavalent chromium at MW-04 decreased from July 1989 (120 mg/L) to July 1993 (1.8 mg/L), while groundwater elevations increased. Since July 1993, hexavalent chromium concentrations have fluctuated while groundwater elevations have remained fairly constant. Historically, hexavalent chromium has been detected (detection limit was 0.02 mg/L) in four other wells other than MW-04, although the highest concentration has always been detected at MW-04.

At MW-14S from October 1990 to January 1993, hexavalent chromium concentrations generally decreased, with analytical non-detections reported for the six sampling rounds before October 1994. Since October 1994, detections have been sporadic, ranging from 0.017 to 0.11 mg/L during 16 of the last 29 sampling events.

Hexavalent chromium concentrations decreased in MW-09 between October 1989 and January 1991. Then between January 1992 and July 1998 hexavalent chromium concentrations were not detected above the reported detection limits (except for a trace amount detected in October 1991). Between October 1998 and July 2002, nine of the fourteen sampling events indicated detectable concentrations of hexavalent chromium in well MW-09.

Total Chromium (Cr[T])

Total chromium was detected above its reporting limit in three monitoring wells during the July 2002 sampling event. The highest concentration was detected in well MW-04 at a concentration of 32.7 mg/L, which is a slight increase from 27.4 mg/L last quarter and 24.4 mg/L in January 2002. Total chromium was also detected in MW-09 (9.1 mg/L) and MW-14S (0.065 mg/L). Figure 6-6 shows the concentrations of total chromium detected in shallow monitoring wells during July 2002. Figure 6-7 shows the concentrations of total chromium and corresponding groundwater elevations in MW-04 over time. Comparison of historical total chromium data with present data (Appendix B) indicates that total chromium concentrations, like those of hexavalent chromium, generally decreased from January 1989 to July 1993, and have fluctuated up and down since July 1993. Historically, the highest total chromium concentrations have been detected in MW-04. Sporadic detections of total chromium close to the detection limit have occurred historically in nearly all-shallow wells on site.

Cadmium (Cd)

During the July 2002 sampling event, cadmium was detected at concentrations greater than the reporting limit in one well. Cadmium was detected in well MW-04 at a concentration of 0.50 mg/L, which is a slight increase from 0.44 mg/L in the previous quarter.

Previous concentrations in MW-04 have ranged from 0.028 mg/L in January 1989 to 0.86 mg/L in July 1992. Figure 6-8 shows the cadmium concentrations detected in the on-site wells during July 2002. Figure 6-9 shows the concentrations of cadmium and corresponding groundwater elevations in MW-04 over time. As shown on Figure 6-9, cadmium concentrations have fluctuated considerably (i.e., from non-detectable at a detection limit of 0.005 mg/L during July 1993 to 0.86 mg/L during July 1992) since July 1990.

Cadmium has been detected consistently only in well MW-04. Historically, cadmium has been detected once at 0.01 mg/L in MW-01 during July 1989. Cadmium was detected in MW-14S at concentrations ranging from 0.005 mg/L to 0.018 mg/L between October 1990 through July 1991 and at a concentration of 0.0055 mg/L during July 1995. Cadmium was also detected in MW-15S at concentrations close to the detection limit from July 1991 to January 1993. Detected concentrations in MW-15S ranged from 0.005 mg/L in July 1992 to 0.02 mg/L during October 1991.

Copper (Cu)

Copper was detected at a concentration greater than the reporting limit only in well MW-14S, at a concentration of 0.031 mg/L. This concentration does not exceed the secondary MCL of 1.3 mg/L. Figure 6-10 shows the copper concentrations detected in the on-site wells during July 2002. Historically, with the exception of well MW-14S, concentrations of copper above the secondary MCL have not been detected in on-site monitoring wells.

pH

Groundwater samples from all wells were measured for pH in the field during purging activities, and also by the analytical laboratory on the samples submitted for analysis. Field pH measurements were recorded in the field logbook during well purging. In July 2002, the field measurements of pH generally correlated with the values shown in Table 6-2, which range from 6.7 to 7.6.

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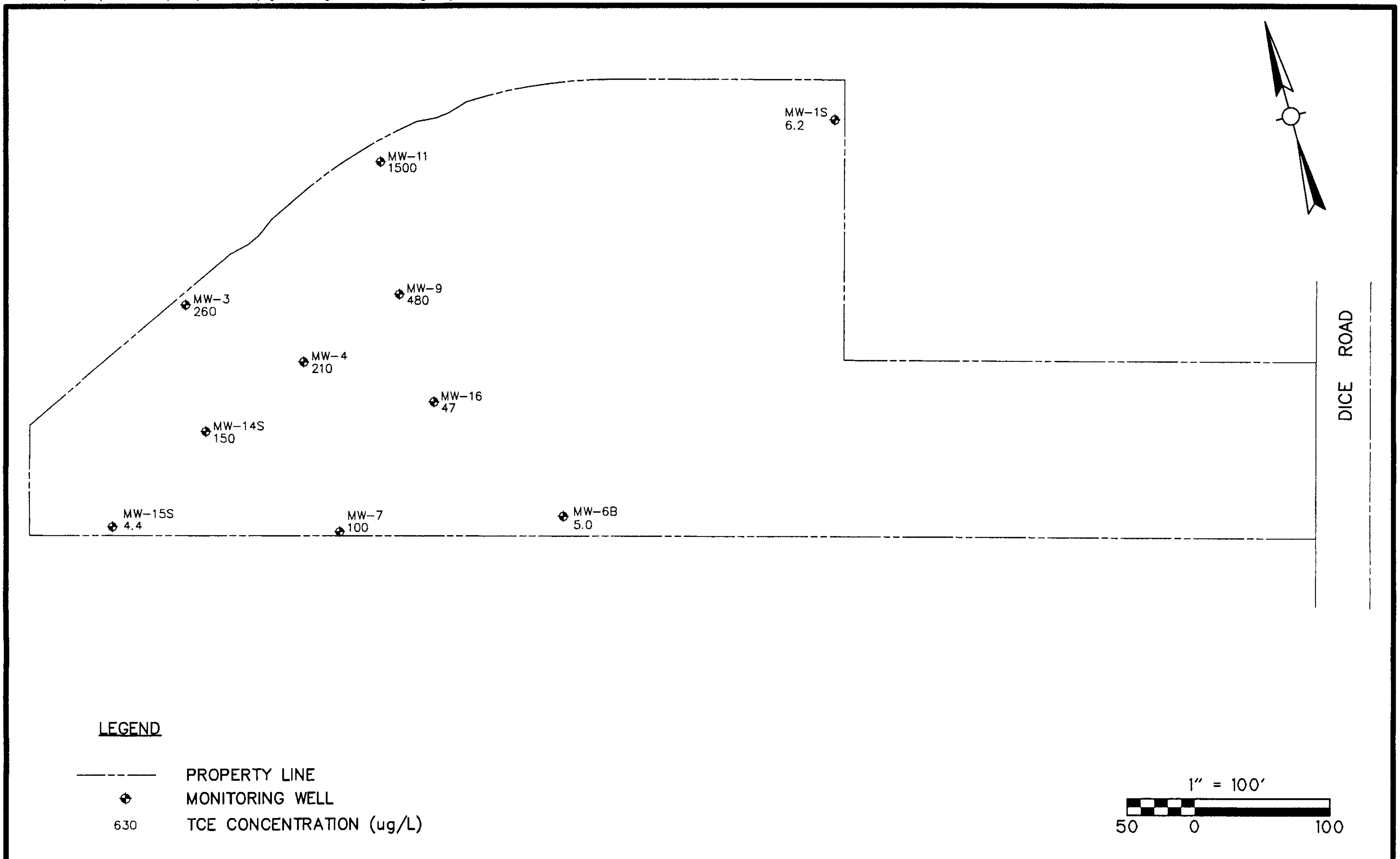

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

TCE Concentrations - Shallow Wells
July 2002

CDM

Figure 6-1

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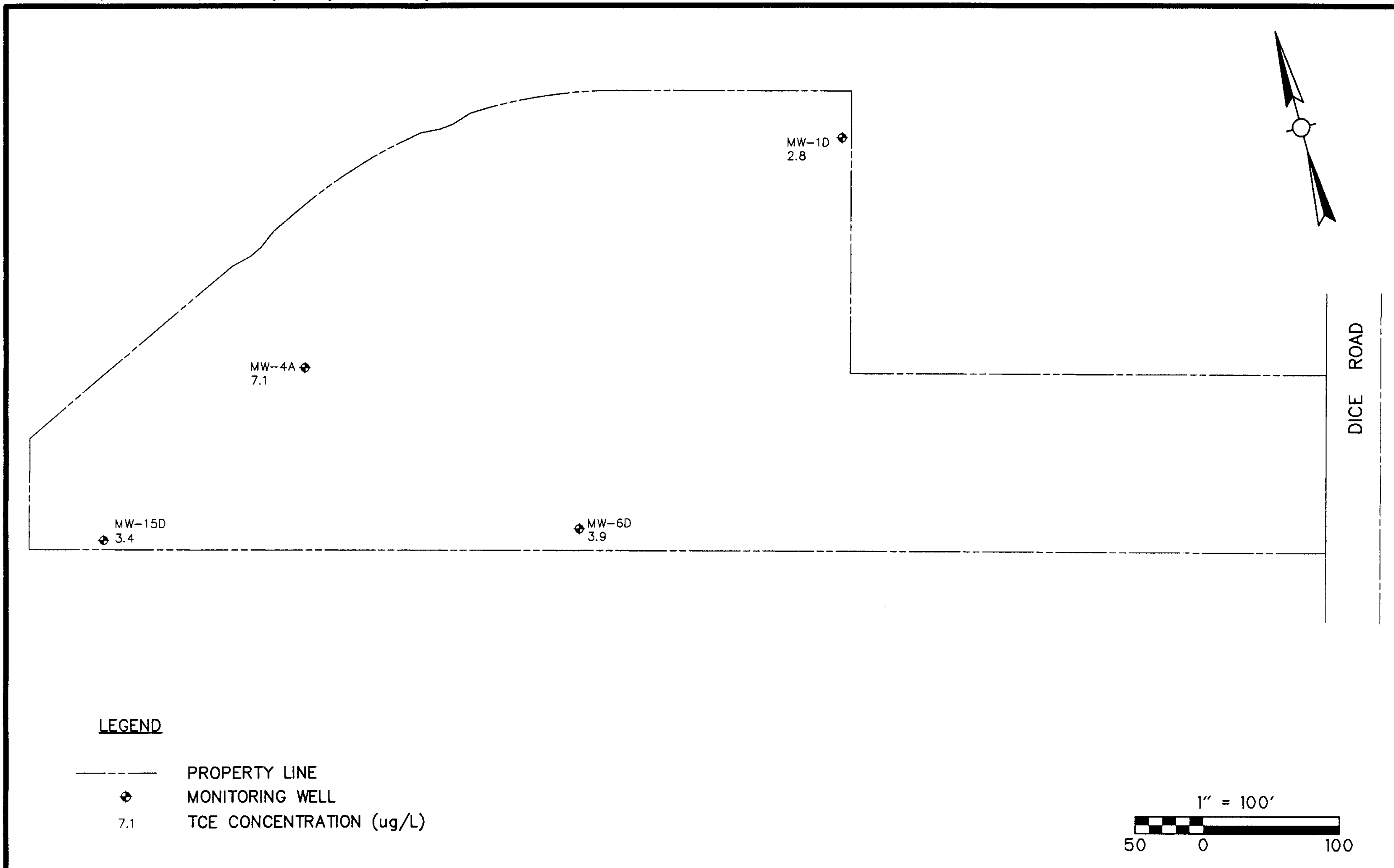

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

TCE Concentrations - Deep Wells
July 2002

CDM

Figure 6-2

DATE: Sep 30, 2002 2:45pm XREFS:
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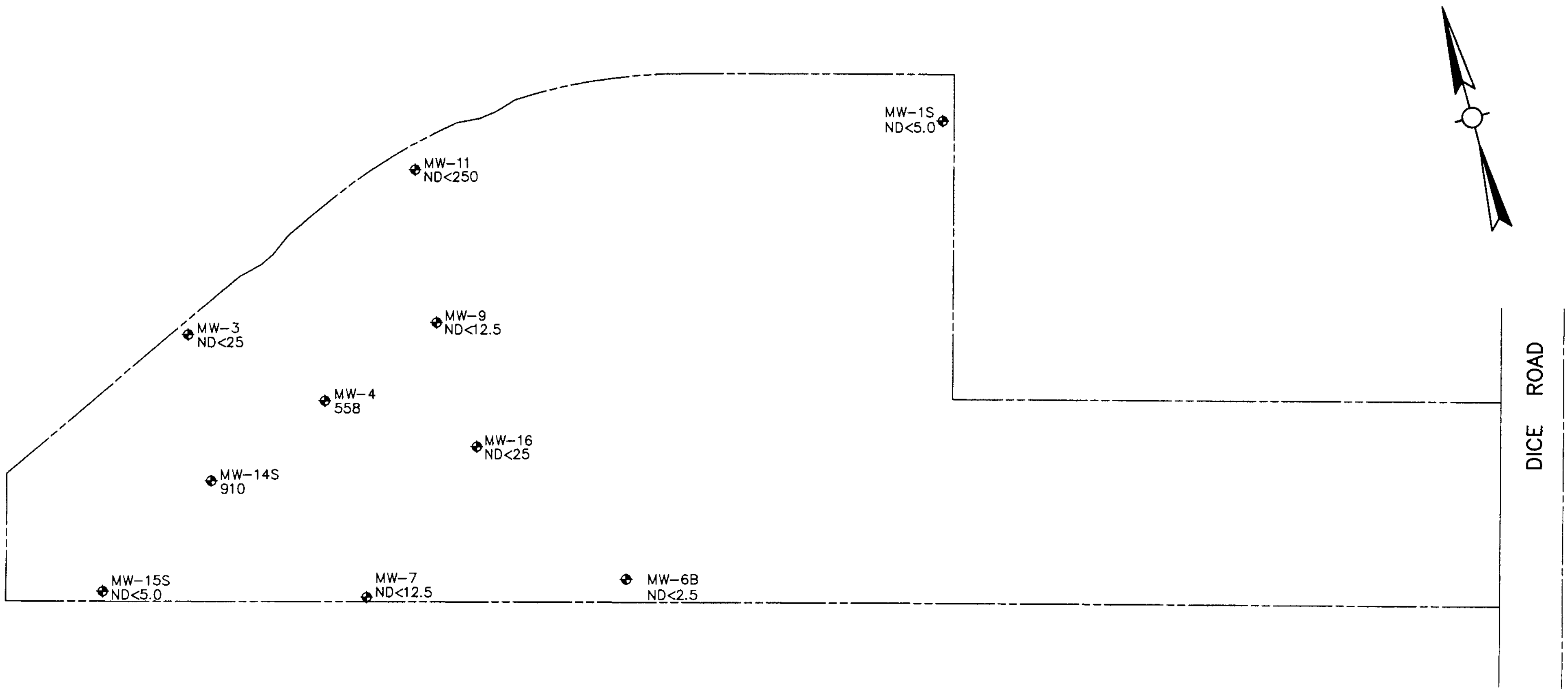

LEGEND

— — —	PROPERTY LINE
⊕	MONITORING WELL
910	TOTAL BTEX CONCENTRATION (ug/L)
ND	NOT DETECTED
BTEX	BENZENE, TOLUENE, ETHYLBENZENE, XYLENE

1" = 100'
50 0 100

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Total BTEX Concentrations - Shallow Wells
July 2002

CDM

Figure 6-3

DATE: Sep 30, 2002 2:45pm XREFS:
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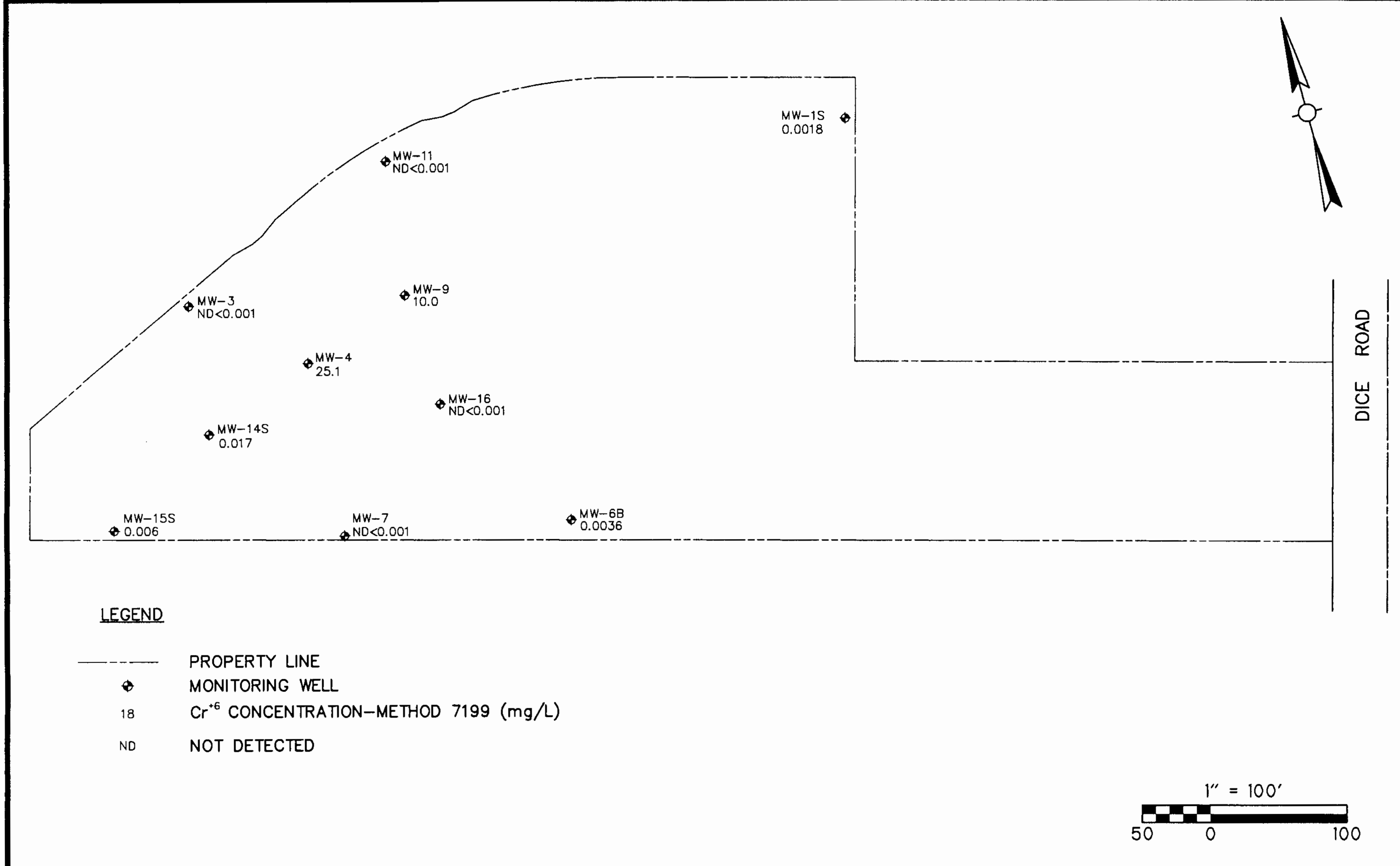

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Hexavalent Chromium Concentrations - Shallow Wells
July 2002

CDM

Figure 6-4

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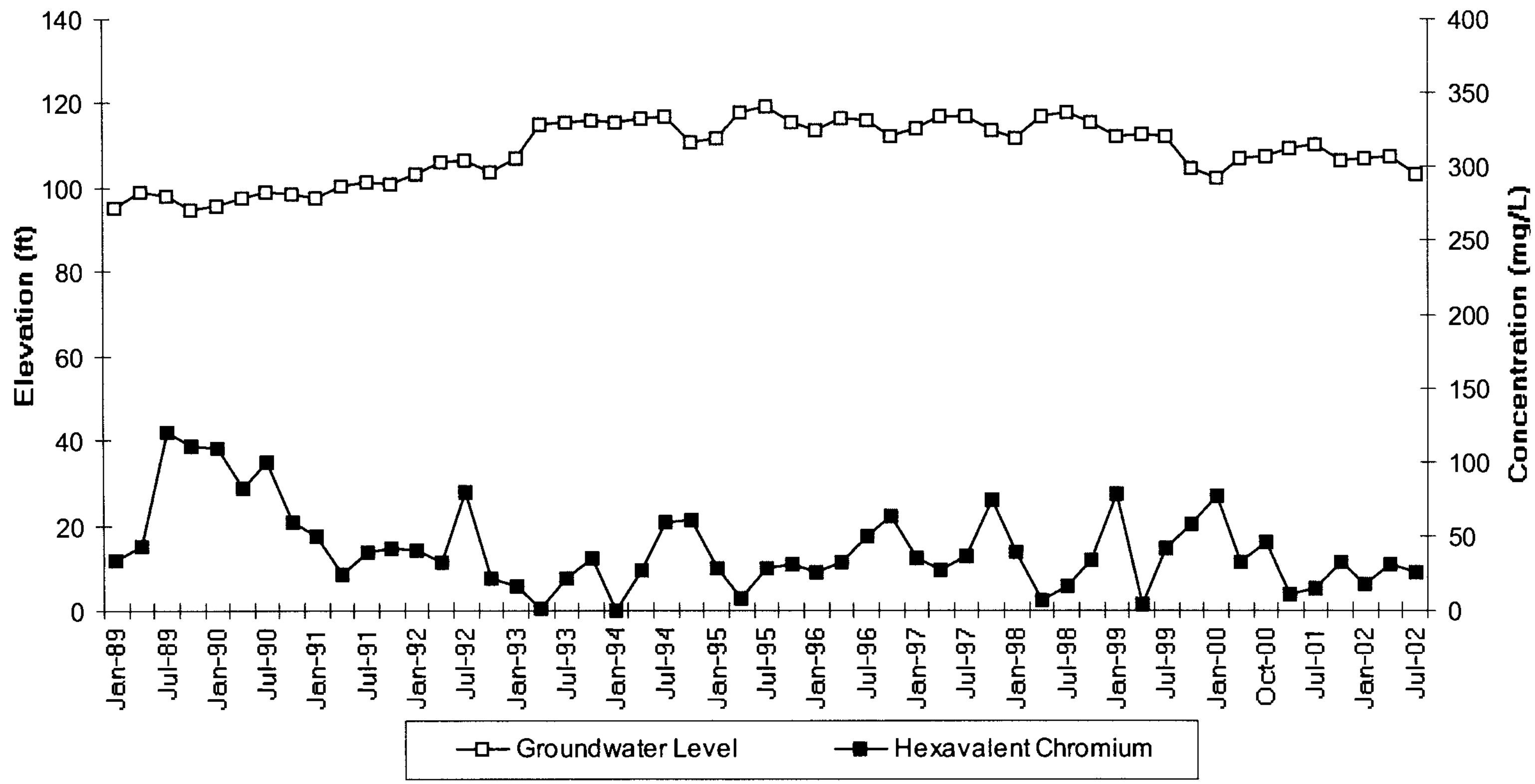

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Hexavalent Chromium Concentration
Groundwater Elevation MW-04
January 1989 - July 2002

CDM

Figure 6-5

DATE: Sep 30, 2002 11:07am XREFS:
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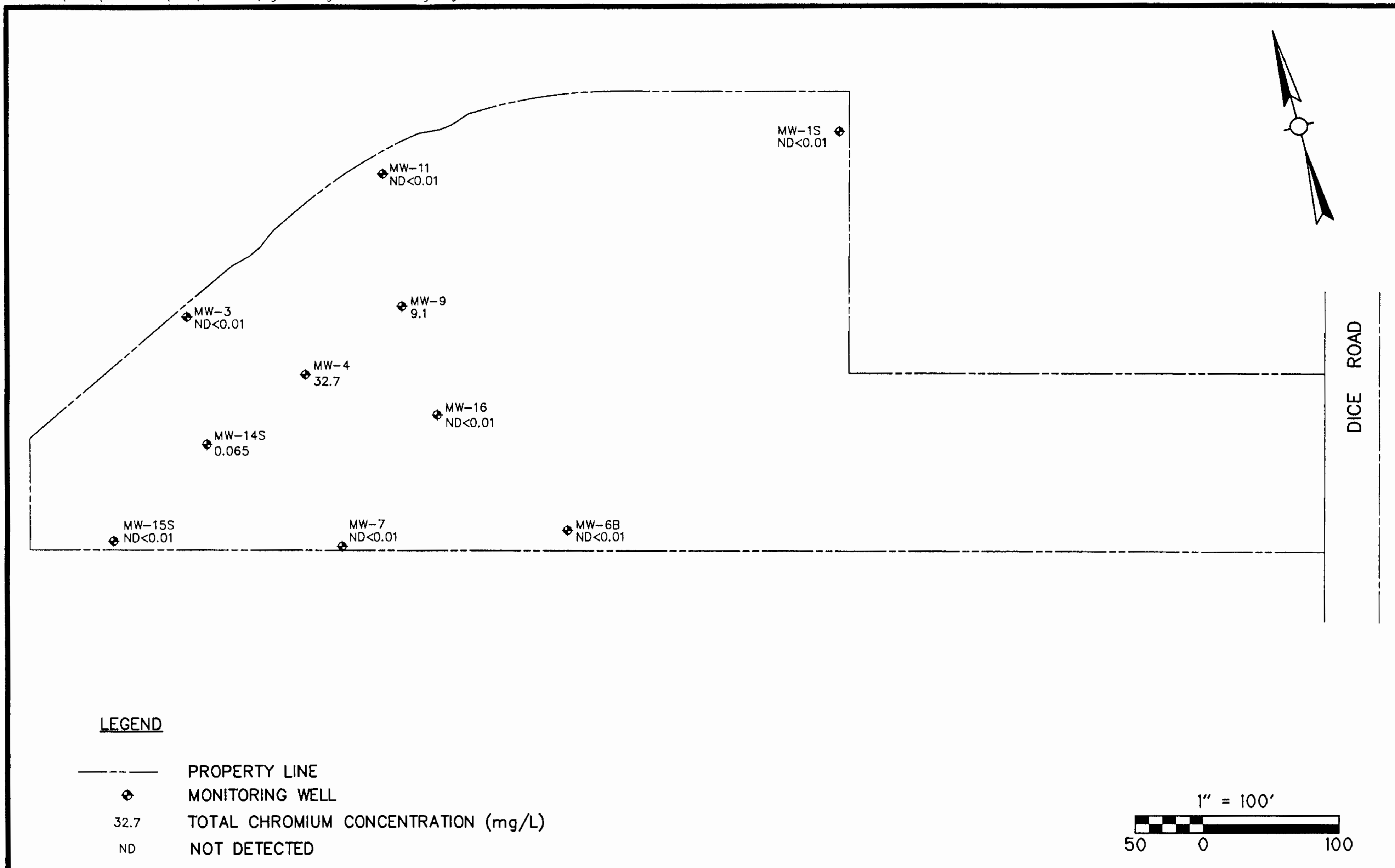

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Total Chromium Concentrations - Shallow Wells
July 2002

CDM

Figure 6-6

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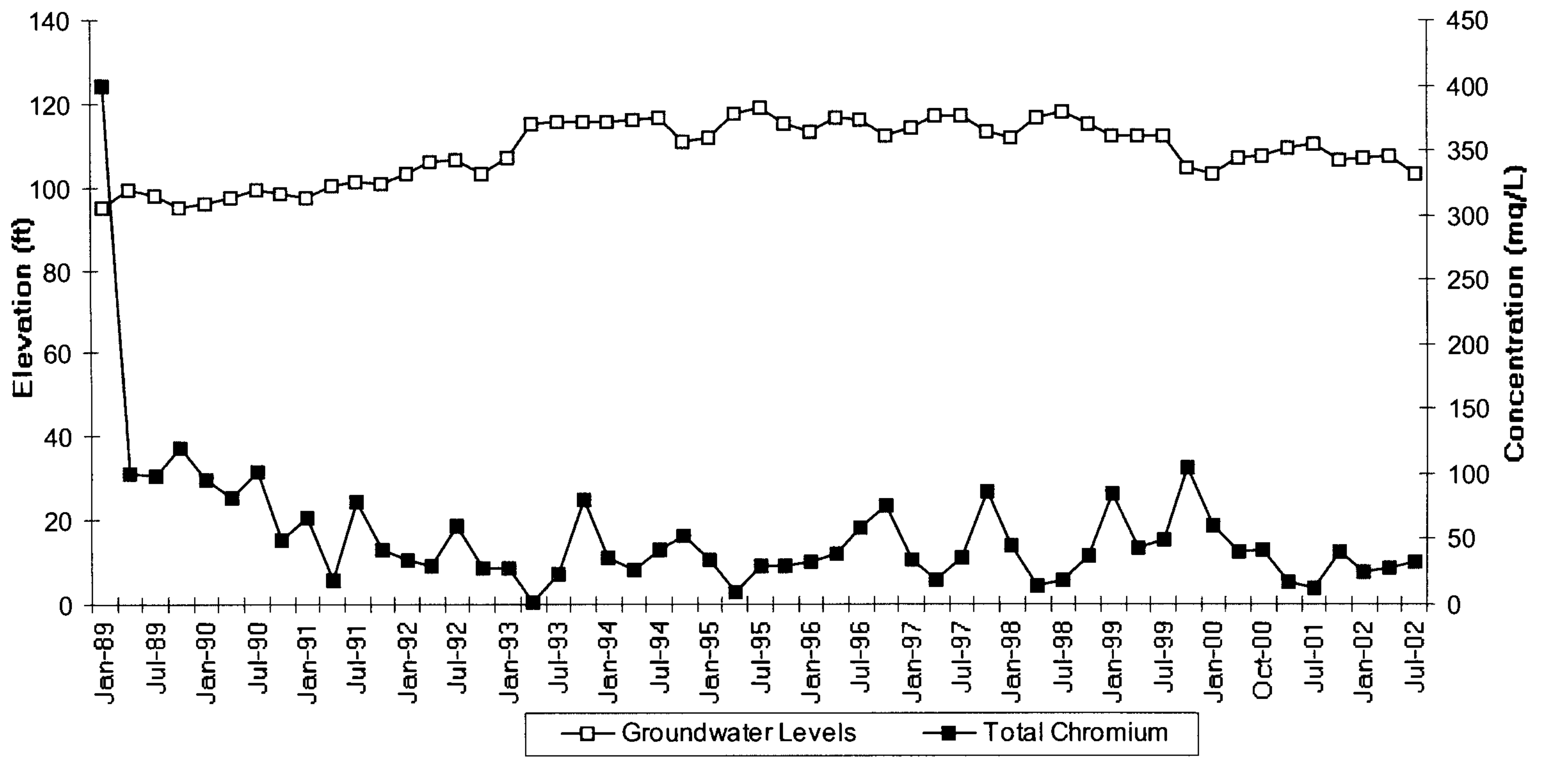

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Total Chromium Concentration
Groundwater Elevation MW-04
January 1989 - July 2002

CDM

Figure 6-7

DATE: Sep 30, 2002 11:24am XREFS:
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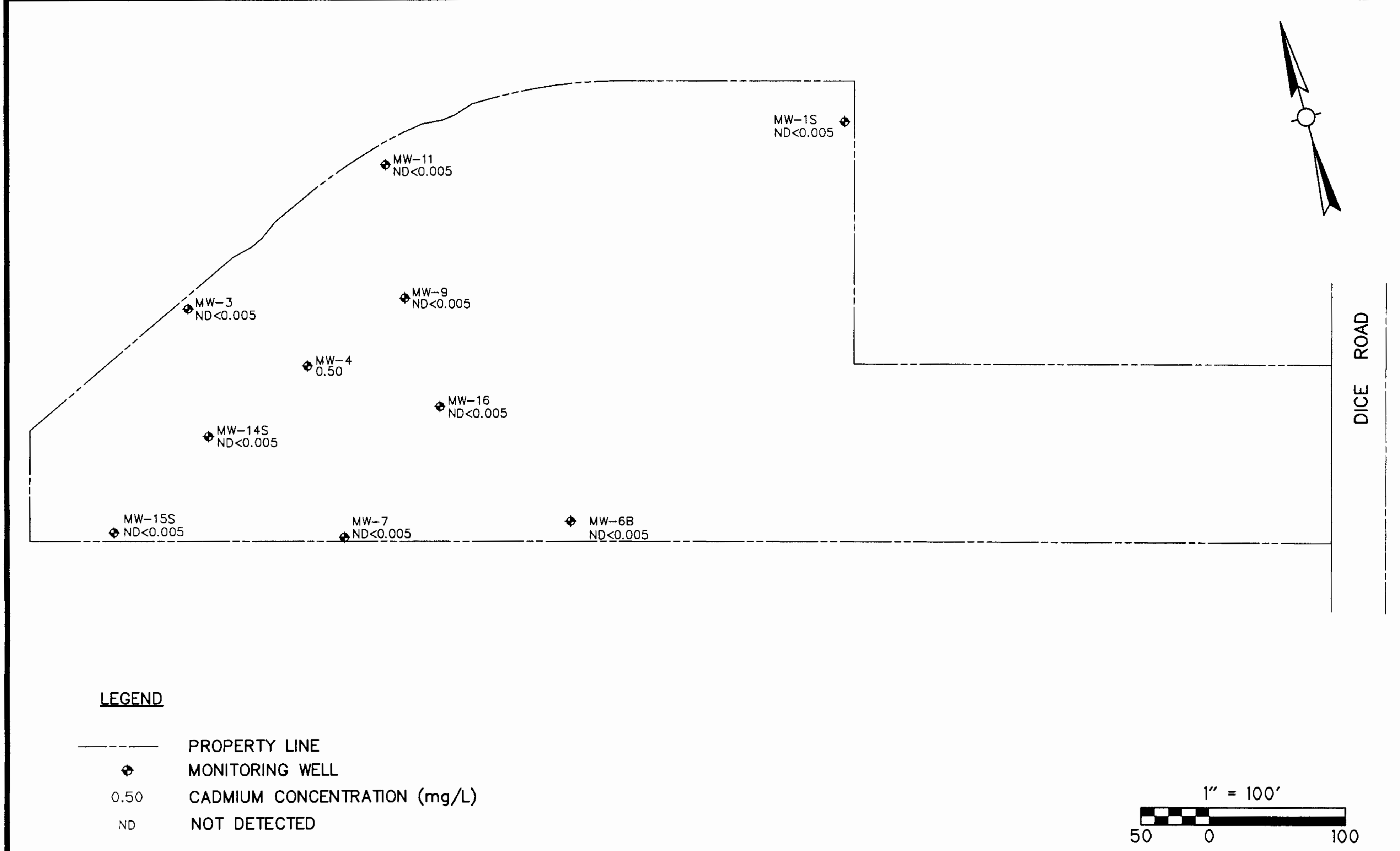

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Cadmium Concentrations - Shallow Wells
July 2002

CDM

Figure 6-8

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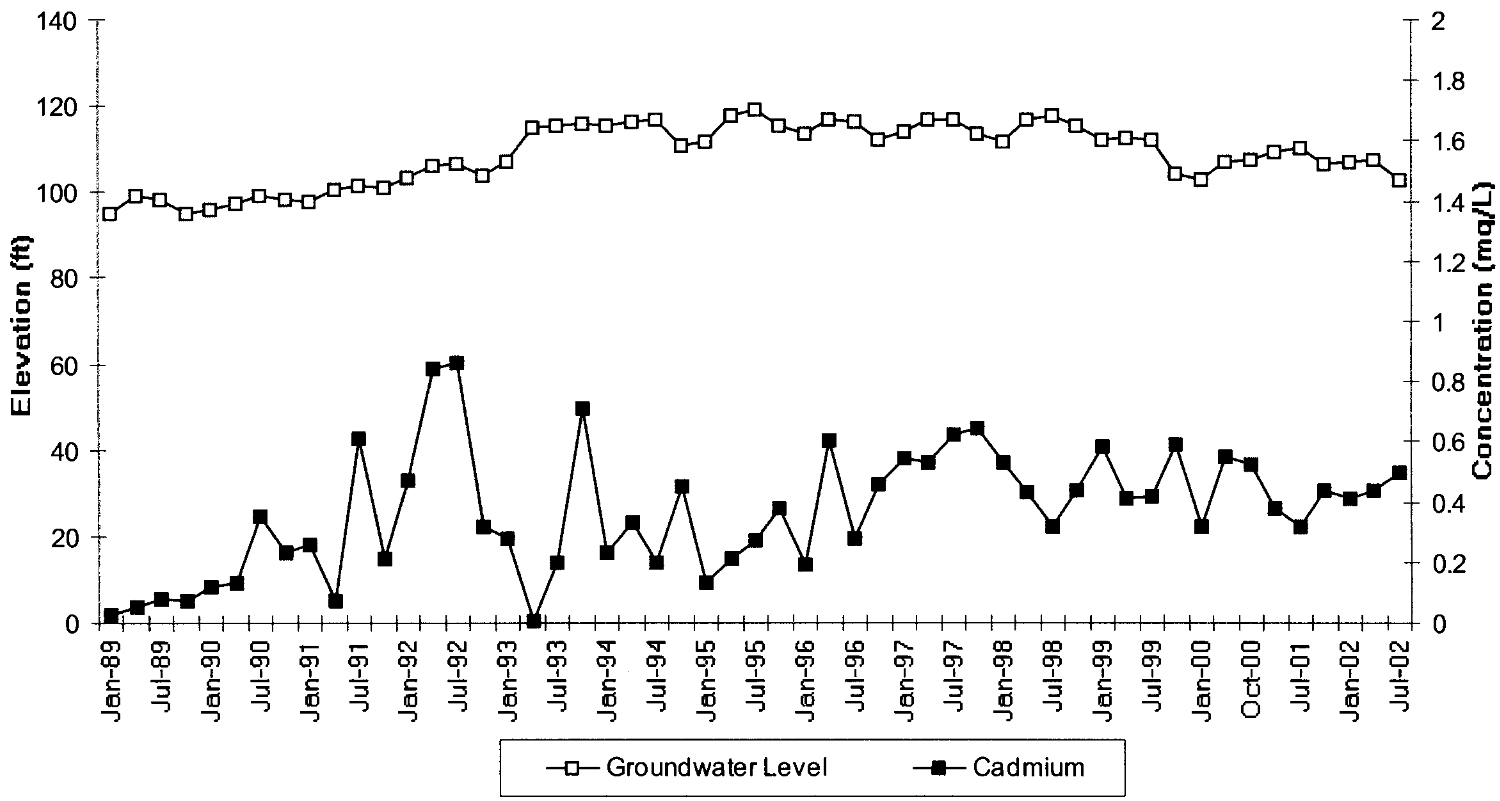

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Cadmium Concentration
Groundwater Elevation MW-04
January 1989 - July 2002

CDM

Figure 6-9

DATE: Sep 30, 2002 1:35pm XREFS:
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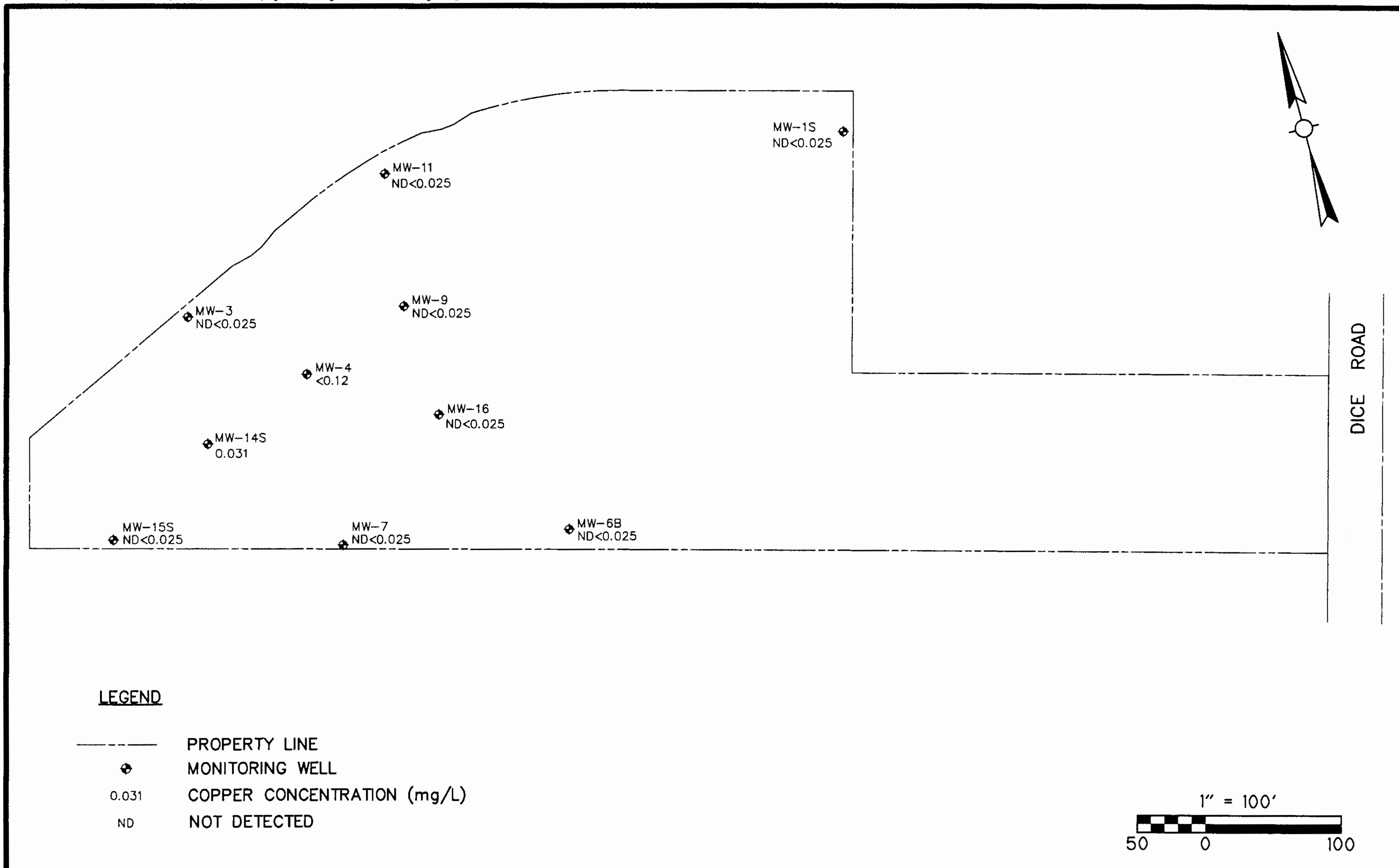

PHIBRO-TECH, INC., SANTA FE SPRINGS, CA

Copper Concentrations - Shallow Wells
July 2002

CDM

Figure 6-10

Table 6-1
Phibro-Tech, Inc.
Groundwater Analytical Results - July 2002
Volatile Organic Compounds (VOCs) and 1,4-Dioxane Analytical Summary

Well Number	Sample Date	Sample Type	Benzene (1)	Toluene (150)	Ethyl-benzene (700)	Xylenes, Total (1,750)	PCE (5)	1,1,1-TCA (200)	TCE (5)	1,1-DCE (6)	1,1-DCA (5)	1,2-DCA (0.5)	CCl4 (0.5)	CFM (100)	cis-1,2-DCE (6)	trans-1,2-DCE (10)	MCL (5)	1,4-Dioxane (3#)
MW-01D	07/17/2001		1 U	1 U	1 U	1 U	1 U	1 U	2.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	10/16/2001		1.5	1 U	1 U	1.5	5.3	1 U	3.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	01/15/2002		1.6	1 U	1 U	1 U	2.5	1 U	1.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	04/16/2002		1 U	1 U	1 U	2 U	3.9	1 U	3.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	07/24/2002		1 U	1 U	1 U	2 U	1.7	1 U	2.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
MW-01S	07/17/2001		1 U	1 U	1 U	1 U	1 U	1 U	10	1 U	1.5	1 U	1 U	1 U	5.6	1 U	1 U	130
	10/16/2001		1 U	1 U	1 U	1 U	1 U	1 U	13	1 U	1.9	1.1	1 U	1 U	6.7	1 U	1 U	140
	01/15/2002		1 U	1 U	1 U	1 U	1.6	1 U	7	1 U	1 U	1.3	1 U	1 U	1.2	1 U	1 U	
	04/16/2002		1 U	1 U	1 U	2 U	1.2	1 U	5.3	1 U	1 U	1.2	1 U	1 U	1	1 U	1 U	
	07/24/2002		1 U	1 U	1 U	2 U	1.2	1 U	6.2	1 U	1 U	1 U	1 U	1 U	1.8	1 U	1 U	
MW-03	07/17/2001		1 U	1 U	1 U	1 U	2.3	1 U	41	6	5.1	1 U	29	20	1 U	1 U	1 U	
	10/17/2001		5 U	5 U	5 U	5 U	5.1	5 U	290	35	35	5 U	39	35	5 U	5 U	5 U	
	01/16/2002		2.5 U	2.5 U	2.5 U	2.5 U	5.6	2.5 U	220	28	30	2.5 U	33	30	2.5 U	2.5 U	2.5 U	
	04/16/2002		5 U	5 U	5 U	10 U	5 U	5 U	280	35	44	5 U	36	38	5 U	5 U	5 U	
	07/24/2002		5 U	5 U	5 U	10 U	5.5	5 U	260	36	34	5 U	28	31	5 U	5 U	5 U	
MW-04	07/18/2001		50 U	50 U	2400	50 U	50 U	50 U	74	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	16
		K	50 U	50 U	2400	50 U	50 U	50 U	76	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	16
	10/18/2001		50 U	50 U	3700	50 U	50 U	50 U	170	50 U	73	50 U	50 U	50 U	65	50 U	50 U	37
		K	50 U	50 U	2800	50 U	50 U	50 U	220	50 U	90	50 U	50 U	50 U	81	50 U	59	36
	01/17/2002		10 U	10 U	680	10 U	10 U	10 U	130	31	55	160	10 U	10 U	63	10 U	20	
		K	10 U	10 U	720	10 U	10 U	10 U	140	32	58	160	10 U	10 U	70	10 U	24	
	04/18/2002		50 U	50 U	2200	170	50 U	50 U	260	57	100	50 U	50 U	50 U	86	50 U	58	
		K	50 U	50 U	1900	160	50 U	50 U	260	65	100	50 U	50 U	50 U	84	50 U	60	
	07/25/2002		7.7	5 U	220	328	5 U	5 U	210	110	180	32	5 U	18	210	5	85	
		K	7.6	5 U	200	317	5 U	5 U	210	110	170	32	5 U	18	200	5 U	84	
MW-04A	07/18/2001		1 U	1 U	1 U	1 U	2.7	1 U	44	13	56	1 U	1 U	2.4	4.4	1.1	1 U	
	10/17/2001		1 U	1 U	1 U	1 U	2	1 U	22	6.2	25	1 U	1 U	1.1	1.7	1 U	1 U	0.95 U

Table 6-1
Phibro-Tech, Inc.
Groundwater Analytical Results - July 2002
Volatile Organic Compounds (VOCs) and 1,4-Dioxane Analytical Summary

Well Number	Sample Date	Sample Type	Benzene (1)	Toluene (150)	Ethyl-benzene (700)	Xylenes, Total (1,750)	PCE (5)	1,1,1-TCA (200)	TCE (5)	1,1-DCE (6)	1,1-DCA (5)	1,2-DCA (0.5)	CCl4 (0.5)	CFM (100)	cis-1,2-DCE (6)	trans-1,2-DCE (10)	MCL (5)	1,4-Dioxane (3#)
MW-04A	01/16/2002		1 U	1 U	1 U	1 U	1.7	1 U	3.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	04/17/2002		2 U	2 U	2 U	4 U	3.6	2 U	71	18	93	2 U	2 U	4.4	7.3	2 U	2 U	
	07/25/2002		1 U	1 U	1 U	2 U	1.3	1 U	7.1	1.8	6.1	1 U	1 U	1 U	1 U	1 U	1 U	
MW-06B	07/18/2001		1 U	1 U	1 U	1 U	1 U	1 U	3.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	10/17/2001		1 U	1 U	1 U	1 U	1 U	1 U	4.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	01/16/2002		1 U	1 U	1 U	1 U	1 U	1 U	5.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	04/17/2002		1 U	1 U	1 U	2 U	1 U	1 U	3.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	07/25/2002		1 U	1 U	1 U	2 U	1 U	1 U	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
MW-06D	07/18/2001		1 U	1 U	1 U	1 U	1 U	1 U	3.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.96 U
	10/17/2001		1 U	1 U	1 U	1 U	1.1	1 U	4.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.95 U
	01/16/2002		1 U	1 U	1 U	1 U	1.1	1 U	6.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	04/17/2002		1 U	1 U	1 U	2 U	1 U	1 U	3.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	07/25/2002		1 U	1 U	1 U	2 U	1 U	1 U	3.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
MW-07	07/18/2001		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	84	13	76	140	2.5 U	2.5 U	21	2.7	2.5 U	
	10/18/2001		2 U	2 U	2 U	2 U	2 U	2 U	160	16	78	27	2 U	2.8	36	4.8	2 U	
	01/17/2002		1 U	1 U	1 U	1 U	1.4	1 U	15	1.2	8.7	15	1 U	1 U	2.1	1 U	1 U	
	04/18/2002		1 U	1 U	1 U	2 U	1	1 U	38	4.1	34	52	1 U	1 U	7.9	1.1	1 U	
	07/26/2002		2.5 U	2.5 U	2.5 U	5 U	2.5 U	2.5 U	100	11	58	15	2.5 U	2.5 U	24	3.4	2.5 U	
MW-09	07/19/2001		5 U	5 U	440	25	5 U	5 U	110	26	88	68	5 U	16	11	5 U	6.8	18
		K	5 U	5 U	390	22	5 U	9.8	130	33	110	64	5 U	19	13	5 U	8.2	13
	10/18/2001		5 U	5 U	8.1	5 U	6.5	8.8	440	89	260	240	5 U	110	15	5 U	69	75
		K	5 U	5 U	33	5 U	5 U	5 U	340	64	160	250	5 U	65	7.6	5 U	68	88
	01/17/2002		2.5 U	2.5 U	2.5 U	2.5 U	4.4	3.6	200	43	89	140	2.5 U	35	5.3	2.5 U	14	
		K	2.5 U	2.5 U	2.5 U	2.5 U	4.2	3.8	200	44	91	150	2.5 U	36	5.3	2.5 U	15	
	04/18/2002		2.5 U	2.5 U	2.5 U	5 U	4.2	12	140	33	110	64	2.5 U	26	11	2.5 U	6.9	
		K	2.5 U	2.5 U	2.5 U	5 U	6	20	190	48	160	56	2.5 U	36	16	2.5 U	10	
	07/26/2002		25 U	25 U	25 U	50 U	25 U	25 U	480	89	320	340	25 U	150	25 U	25 U	280	
		K	10 U	10 U	10 U	20 U	10 U	10 U	570	130	360	380	10 U	170	13	10 U	320	

Table 6-1
Phibro-Tech, Inc.
Groundwater Analytical Results - July 2002
Volatile Organic Compounds (VOCs) and 1,4-Dioxane Analytical Summary

Well Number	Sample Date	Sample Type	Benzene (1)	Toluene (150)	Ethyl-benzene (700)	Xylenes, Total (1,750)	PCE (5)	1,1,1-TCA (200)	TCE (5)	1,1-DCE (6)	1,1-DCA (5)	1,2-DCA (0.5)	CCl4 (0.5)	CFM (100)	cis-1,2-DCE (6)	trans-1,2-DCE (10)	MCL (5)	1,4-Dioxane (3#)
MW-11	07/17/2001		5 U	5 U	5 U	5 U	5 U	5 U	400	30	67	5 U	5 U	9.9	9	5 U	5 U	5.1
	10/18/2001		25 U	25 U	90	122	25 U	27	1500	98	410	25 U	25 U	50	51	25 U	25 U	12
	01/17/2002		25 U	31	1900	530	25 U	25 U	630	44	120	25 U	25 U	25 U	54	25 U	25 U	
	04/18/2002		25 U	25 U	300	50 U	25 U	27	1300	89	360	25 U	25 U	44	66	25 U	25 U	
	07/26/2002		50 U	50 U	50 U	100 U	50 U	50 U	1500	110	410	50 U	50 U	50 U	58	50 U	50 U	
MW-14S	07/19/2001		1 U	1 U	1 U	1 U	1.2	1 U	35	5.5	7.4	3.5	2.2	2.2	2.1	1 U	1 U	
	10/17/2001		2 U	2 U	2.4	2 U	2.4	2 U	170	39	56	6.4	22	23	5.2	2 U	2 U	
	01/16/2002		50 U	50 U	2700	1100	50 U	50 U	91	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	
	04/17/2002		2 U	2 U	2 U	3.8	2 U	2 U	130	30	41	13	18	18	5.3	2 U	2 U	
	07/25/2002		25 U	25 U	860	50 U	25 U	25 U	150	39	43	25 U	25 U	25 U	25 U	25 U	25 U	
MW-15D	07/19/2001		1 U	1 U	2.5	1 U	1.8	1 U	2.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.95 U
	10/17/2001		2.2	1 U	1 U	1 U	2.4	1 U	6.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.95 U
	01/16/2002		1 U	1 U	1 U	1 U	8	1 U	6.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	04/17/2002		1.1	1 U	1 U	2 U	1.6	1 U	6.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
	07/25/2002		1 U	1 U	1 U	2 U	1.9	1 U	3.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
MW-15S	07/19/2001		1 U	1 U	1 U	1 U	1.4	1 U	5.1	1 U	1 U	11	2.1	4	1 U	1 U	1 U	
	10/17/2001		1 U	1 U	1 U	1 U	1.2	1 U	2.8	1 U	1 U	8.2	2	3.5	1 U	1 U	1 U	
	01/16/2002		1 U	1 U	1 U	1 U	1.1	1 U	2.7	1 U	1 U	8.6	1.4	2.9	1 U	1 U	1 U	
	04/17/2002		1 U	1 U	1 U	2 U	1.1	1 U	2.9	1 U	1 U	3	2.9	4	1 U	1 U	12	
	07/24/2002		1 U	1 U	1 U	2 U	1.2	1 U	4.4	1 U	1 U	3	1.3	2.8	1 U	1 U	1 U	
MW-16	07/19/2001		2.5 U	2.5 U	2.7	2.5 U	2.5 U	2.5 U	26	7.3	72	160	2.5 U	2.5 U	7.2	2.5 U	2.5 U	
	10/18/2001		2 U	2 U	41	2 U	2 U	2 U	34	13	130	49	2 U	2 U	14	2.8	2 U	
	01/17/2002		2 U	2 U	2 U	2 U	2 U	2 U	31	11	100	39	2 U	2 U	8.3	2 U	2 U	
	04/18/2002		2 U	2 U	2 U	4 U	2 U	2 U	37	10	110	90	2 U	2 U	6.5	2 U	2 U	
	07/26/2002		5 U	5 U	5 U	10 U	5 U	5 U	47	22	220	35	5 U	5 U	27	5.5	5 U	

Table 6-1
Phibro-Tech, Inc.
Groundwater Analytical Results - July 2002
Volatile Organic Compounds (VOCs) and 1,4-Dioxane Analytical Summary

Well Number	Sample Date	Sample Type	Benzene (1)	Toluene (150)	Ethyl-benzene (700)	Xylenes, Total (1,750)	PCE (5)	1,1,1-TCA (200)	TCE (5)	1,1-DCE (6)	1,1-DCA (5)	1,2-DCA (0.5)	CCl4 (0.5)	CFM (100)	cis-1,2-DCE (6)	trans-1,2-DCE (10)	MCL (5)	1,4-Dioxane (3#)

Notes:

PCE = Tetrachloroethene; TCE = Trichloroethene; TCA = Trichloroethane; DCE = Dichloroethene; DCA = Dichloroethane; CFM = Chloroform; MCL = Methylene chloride; and CCl4 = Carbon tetrachloride.

California Maximum Contaminant Levels (MCLs) are shown in parenthesis. MCL shown for chloroform is the sum of trihalomethane isomers
= California Action Level.

Samples analyzed by EPA Method 8260.
All concentrations are reported in micrograms per liter (ug/L).
Only compounds detected in one or more samples are listed.
U = Not detected at a concentration greater than the reporting limit shown.

Sample Type:
K = Split sample

Table 6-2
Phibro-Tech, Inc.
Groundwater Analytical Results - July 2002
Metals and pH Analytical Summary

Well Number	Sample Date	Sample Type	pH	Cadmium (0.005)	Chromium (0.05)	Cr (+6)	Copper (1.3)
MW-01D	07/17/2001		7.3	0.005 U	0.01 U	0.0055	0.025 U
	10/16/2001		7.4	0.005 U	0.01 U	0.002 U	0.025 U
	01/15/2002		7.5	0.005 U	0.01 U	0.002 U	0.025 U
	04/16/2002		7.5	0.005 U	0.01 U	0.002 U	0.025 U
	07/24/2002		7.5	0.005 U	0.01 U	0.005	0.025 U
MW-01S	07/17/2001		6.6	0.005 U	0.01 U	0.002 U	0.025 U
	10/16/2001		6.8	0.005 U	0.01 U	0.0062	0.025 U
	01/15/2002		7.1	0.005 U	0.01 U	0.02 U	0.025 U
	04/16/2002		7.1	0.005 U	0.01 U	0.002 U	0.025 U
	07/24/2002		7	0.005 U	0.01 U	0.0018	0.025 U
MW-03	07/17/2001		7	0.005 U	0.01 U	0.002 U	0.025 U
	10/17/2001		7.1	0.005 U	0.01 U	0.002 U	0.025 U
	01/16/2002		7.2	0.005 U	0.01 U	0.002 U	0.025 U
	04/16/2002		7.1	0.005 U	0.01 U	0.002 U	0.025 U
	07/24/2002		7.1	0.005 U	0.01 U	0.001 U	0.025 U
MW-04	07/18/2001		6.9	0.32	12.6	15	0.025 U
		K	6.8	0.31	11.9	14	0.025 U
	10/18/2001		6.9	0.44	39.8	32	0.05 U
		K	6.8	0.4	28.9	33	0.05 U
	01/17/2002		6.7	0.41	24.4	18	0.05 U
		K	6.9	0.35	18.9	18	0.025 U
	04/18/2002		6.8	0.44	27.4	31	0.05 U
		K	6.8	0.43	26.3	31	0.05 U
	07/25/2002		6.7	0.5	32.7	25.1	0.12 U
		K	6.7	0.49	29.8	30.5	0.12 U
MW-04A	07/18/2001		7.2	0.005 U	0.01 U	0.0055	0.025 U
	10/17/2001		7.5	0.005 U	0.01 U	0.0077	0.025 U
	01/16/2002		5.9	0.005 U	0.01 U	0.0052	0.025 U
	04/17/2002		7.3	0.005 U	0.01 U	0.0068	0.025 U
	07/25/2002		7.6	0.005 U	0.01 U	0.0062	0.025 U
MW-06B	07/18/2001		7.2	0.005 U	0.01 U	0.0053	0.025 U
	10/17/2001		7.5	0.005 U	0.01 U	0.0049	0.025 U
	01/16/2002		7.4	0.005 U	0.01 U	0.0051	0.025 U
	04/17/2002		7.4	0.005 U	0.01 U	0.0066	0.025 U
	07/25/2002		7.4	0.005 U	0.01 U	0.0036	0.025 U
MW-06D	07/18/2001		7.3	0.005 U	0.01 U	0.0024	0.025 U
	10/17/2001		7.6	0.005 U	0.01 U	0.002 U	0.025 U
	01/16/2002		7.4	0.005 U	0.01 U	0.002 U	0.025 U
	04/17/2002		7.5	0.005 U	0.01 U	0.0027	0.025 U

Table 6-2
Phibro-Tech, Inc.
Groundwater Analytical Results - July 2002
Metals and pH Analytical Summary

Well Number	Sample Date	Sample Type	pH	Cadmium (0.005)	Chromium (0.05)	Cr (+6)	Copper (1.3)
MW-06D	07/25/2002		7.4	0.005 U	0.01 U	0.0015	0.025 U
MW-07	07/18/2001		6.6	0.005 U	0.01 U	0.002 U	0.037
	10/18/2001		6.7	0.01 U	0.02 U	0.002 U	0.073
	01/17/2002		7.2	0.005 U	0.01 U	0.002 U	0.034
	04/18/2002		7.1	0.005 U	0.01 U	0.002 U	0.057
	07/26/2002		6.9	0.005 U	0.01 U	0.001 U	0.025 U
MW-09	07/19/2001		7	0.005 U	0.085	0.076	0.025 U
		K	7	0.005 U	0.082	0.085	0.025 U
	10/18/2001		6.9	0.005 U	1.3	1.1	0.025 U
		K	6.9	0.005 U	1.4	1.1	0.025 U
	01/17/2002		7.1	0.005 U	0.16	0.28	0.025 U
		K	7.1	0.005 U	0.15	0.23	0.025 U
	04/18/2002		7.1	0.005 U	0.16	0.14	0.025 U
		K	7.1	0.005 U	0.15	0.14	0.025 U
	07/26/2002		6.7	0.005 U	9.1	10	0.025 U
		K	6.7	0.005 U	9.3	10.2	0.025 U
MW-11	07/17/2001		6.8	0.005 U	0.01 U	0.002 U	0.025 U
	10/18/2001		6.7	0.005 U	0.01 U	0.002 U	0.025 U
	01/17/2002		7.1	0.005 U	0.01 U	0.002 U	0.025 U
	04/18/2002		6.8	0.005 U	0.01 U	0.002 U	0.025 U
	07/26/2002		6.7	0.005 U	0.01 U	0.001 U	0.025 U
MW-14S	07/19/2001		7.1	0.005 U	0.025	0.0046	0.025 U
	10/17/2001		7.2	0.005 U	0.14	0.002 U	0.042
	01/16/2002		7.4	0.005 U	0.01 U	0.002 U	0.025 U
	04/17/2002		7.2	0.005 U	0.043	0.035	0.029
	07/25/2002		7.3	0.005 U	0.065	0.017	0.031
MW-15D	07/19/2001		7.3	0.005 U	0.013	0.0081	0.025 U
	10/17/2001		7.6	0.005 U	0.01 U	0.002 U	0.025 U
	01/16/2002		7.6	0.005 U	0.01 U	0.0081	0.025 U
	04/17/2002		7.5	0.005 U	0.01 U	0.002 U	0.025 U
	07/25/2002		7.6	0.005 U	0.01 U	0.0047	0.025 U
MW-15S	07/19/2001		7.2	0.005 U	0.01 U	0.0074	0.025 U
	10/17/2001		7.5	0.005 U	0.01 U	0.0088	0.025 U
	01/16/2002		7.5	0.005 U	0.011	0.0091	0.025 U
	04/17/2002		7.4	0.005 U	0.01 U	0.01	0.025 U
	07/24/2002		7.4	0.005 U	0.01 U	0.006	0.025 U
MW-16	07/19/2001		7	0.005 U	0.01 U	0.0031	0.025 U
	10/18/2001		7	0.005 U	0.01 U	0.002 U	0.025 U
	01/17/2002		7.2	0.005 U	0.11	0.096	0.025 U

Table 6-2
Phibro-Tech, Inc.
Groundwater Analytical Results - July 2002
Metals and pH Analytical Summary

Well Number	Sample Date	Sample Type	pH	Cadmium (0.005)	Chromium (0.05)	Cr (+6)	Copper (1.3)
MW-16	04/18/2002		7.1	0.005 U	0.012	0.002 U	0.025 U
	07/26/2002		7	0.005 U	0.01 U	0.001 U	0.025 U

Notes:

California Maximum Contaminant Levels (MCLs) are shown in parenthesis. Secondary MCL is shown for copper.

All concentrations are reported in milligrams per liter (mg/L).
Metals analyzed by EPA Method 6010B, except for Cr (+6), which was analyzed by EPA Method 7199.
pH analyzed by EPA Method 9040B.
U = Not detected at a concentration greater than the reporting limit shown
Analyte not analyzed or not reported if left blank.

Sample Type:
K = Split sample

Section 7
Statistical Evaluation

The following sections contain a statistical treatment of the monitoring data designed to determine if onsite wells have been impacted by metals, BTEX compounds (benzene, toluene, ethylbenzene, xylenes) or TCE (trichloroethene). The procedures used are based on the recommendations provided in the 1989 EPA Guidance document, *Statistical Analysis of Ground-water Monitoring Data at RCRA Facilities - Interim Final Guidance* and in the 1992 Addendum document (EPA, 1989 and EPA, 1992).

7.1 Background Upper Tolerance Limit Comparison

The upper tolerance limit (UTL) is a method that is typically used to compare analytical results from downgradient or wells to analytical results from upgradient or background wells. In this evaluation, CDM has calculated UTLs for metals, BTEX and TCE based on groundwater analytical results from the background well (MW-1S). Groundwater analytical data from January 1989 through July were used to calculate the UTLs. The background UTLs were then compared to each individual downgradient analytical result. When onsite wells exceed the background UTL consistently, it suggests that a significant difference from background may exist.

Results

The frequencies of detection (FOD) for each parameter in the background well (MW-1S) are provided in Table 7-1. The FOD is used to determine the method used to calculate the UTL. The results of the UTL calculations and the comparison with each onsite well are presented in Table 7-2. Based on the number of analyses above the UTL for each onsite well, MW-3, MW-4, MW-7, MW-9, MW-11, MW-14S, MW-15 and MW-16 appear to differ from background with respect to the BTEX compounds. MW-4, MW-9, and MW-14S also appear to differ from background with respect to total chromium and copper.

7.2 Analysis of Variance Comparison

In addition to comparing onsite well analytical to the background UTL, EPA recommends using analysis of variance (ANOVA). ANOVA compares the means of two statistical populations. For this evaluation, CDM compares groundwater analytical results for metals, BTEX, and TCE from onsite wells to groundwater analytical results from background monitoring well MW-1S. If the ANOVA null hypothesis is accepted, the two statistical populations are essentially the same. The ANOVA calculations are presented in Appendices E-2 and E-3.

Results

The ANOVA results are summarized in Table 7-3. An " R" indicates that the null hypothesis was rejected, or that the concentrations differ from the background well, while an "A" indicates the null hypothesis was accepted. In general, the results are similar to the UTL comparison, with the except ion that groundwater from well MW-

16 appears to differ from background with respect to the BTEX compounds. The results indicate that only well MW-6B was the same as background with respect to TCE. The results have not changed since the April 2002 analysis except well MW-4 now differs from background with respect to copper.

Table 7-1 Percent of Total Samples in Shallow Wells Reported Above the Detection Limit Quarterly Data: January 1989 to July 2002 at Philbro-Tech, Inc.

Parameter	MW-1S	MW-3	MW-4	MW-6B	MW-7	MW-9	W-11	MW-14S	MW-15S	MW-16
Number Samples (n)	53	53	53	49	53	55	53	45	47	40
Metals (mg/L) (%)										
Hexavalent chromium	5.7	5.6	100.0	12.0	3.8	39.3	3.8	52.2	19.1	7.5
Total chromium	9.4	7.5	98.2	22.4	17.0	50.0	11.3	80.0	32.6	10.0
Cadmium	1.9	0	98.2	0	3.8	3.6	0	17.8	17.4	0
Copper	20.8	9.4	25.0	4.1	49.1	8.9	20.8	60.0	10.9	15.4
Aromatics (µg/L) (%)										
Benzene	1.9	9.4	17.9	0	17.0	5.4	0	17.8	0	0
Toluene	7.7	13.5	29.1	33.3	13.5	29.1	38.5	15.9	22.2	15.4
Ethylbenzene	24.5	50.9	87.5	42.9	39.6	60.7	83.0	75.6	52.2	72.5
Total xylenes	26.4	39.6	78.6	38.8	28.3	46.4	66.0	53.3	45.7	40.0
Halocarbons (µg/L) (%)										
Trichloroethene	100.0	96.2	94.6	100.0	100.0	94.6	96.2	100.0	97.8	100.0

% = Percent detected

Table 7-2 Definition of Upper Tolerance Levels in Background Shallow Wells Quarterly Data: January 1989 to July 2002 at Philbro-Tech, Inc.

Parameter	% Detected in Bkgd [1]	Tolerance Limit Method	Upper Tolerance Limit [2]	Upper Tolerance Limit Exceeded								
				MW-3 53 [3]	MW-4 56	MW-6B 48	MW-7 52	MW-9 54	MW-11 53	MW-14S 44	MW-15S 46	MW-16 39
Metals (mg/L)												
Hexavalent Chromium	5.7	P	1.0	-	54	-	-	10	-	1	-	-
Total Chromium	9.4	A	0.041	2	56(1)	1	2	24	-	23(1)	1	1
Cadmium	1.9	P	0.5	-	14	-	-	-	-	-	-	-
Copper	20.8	A	0.029	5 (1)	19 (11)	3 (1)	22 (2)	5 (1)	9 (1)	18	4	5
Aromatics (µg/L)												
Benzene	1.9	P	26.5	3 (3) [5]	14 (13)	-	-	10 (10)	4 (4)	2 (2)	-	1 (1)
Toluene	7.7	A	1.19	24 (17)	47 (31)	14 (1)	18 (12)	45 (29)	43(23)	21 (15)	12 (2)	27 (22)
Ethylbenzene	24.5	A	2.14	25 (8)	51 (3)	15 (1)	19 (7)	48 (15)	48 (7)	32 (1)	22	31 (4)
Total xylenes	26.4	A	4.51	20(8)	53 (10)	15(1)	12 (5)	43 (18)	41 (12)	21 (5)	11	17 (8)
Halocarbons (µg/L)												
Trichloroethene	100.0	T	20.12	42 (1)	56 (3)	10	50	55 (3)	51	41	3	37

1 MW-1S is background shallow well, n = 53
2 In ppm or ppb, as noted for groups
3 Number of samples collected at corresponding well
4 Number of samples that exceed upper tolerance level at corresponding well
5 (6) number of samples exceeding limit that are reported as ND
- = None of samples exceeded the upper tolerance limit
P = Poisson
A = Atchison adjusted
T = Unadjusted limit

Table 7-3 Comparison of Background and Onsite Shallow Wells Quarterly Data: January 1989 to July 2002 at Phibro-Tech, Inc.

Parameter	MW-3	MW-4	MW-6B	MW-7	MW-9	MW-11	MW-14S	MW-15S	MW-16
Metals (mg/L)									
Hexavalent chromium [1]	A	R	A	A	R	A	R	A	A
Total chromium [1]	A	R	R	A	R	A	R	R	A
Cadmium [1]	A	R	A	A	A	A	A	A	A
Copper [1]	A	R	A	R	A	A	R	A	A
Aromatics (μg/L)									
Benzene [1]	R	R	A	R	R	R	R	A	R
Toluene [1]	R	R	R	R	R	R	R	A	R
Ethylbenzene [1]	R	R	R	R	R	R	R	R	R
Total xylenes [1]	R	R	A	A	R	R	R	A	R
Halocarbons (μg/L)									
Trichloroethene [2]	R [3]	R [4]/R [5]	A [3]	R [3]	R/R	R [3]	R/R	R/R	R/R

1 Background to onsite comparison by Mann Whitney U Method, using D.L. for ND, at 95 percent confidence level
2 Background to onsite comparison by one way ANOVA Method using 1/2 D.L. for ND
3 Nonparametric comparison used for TCE
4 Normal Distribution used in comparison
5 Log normal Distribution used in comparison
A Null Hypothesis, that means are equal, is accepted
R Null Hypothesis, that means are equal, is rejected
R/R Null Hypothesis, rejected using parametric (top letter) and nonparametric (bottom letter) tests

Section 8
Assessment of Quarterly Groundwater Monitoring Program Status

In the October 1990 groundwater monitoring report, changes in the quarterly groundwater-sampling program were proposed. These changes were first implemented during the April 1991 sampling event and included reducing the number of wells sampled and parameters analyzed in each well. The current groundwater-sampling program will only be used as an interim program, until the Site conceptual model has been completed and the drat sampling and analysis plan finalized). Based on over 17 years of quarterly monitoring at the site, off-site migration of the soluble metals plume has not been observed.

The analytical parameters for the July 2002 quarterly monitoring were as follows:

Wells	Volatile Organic Compounds (EPA 8260)	Chromium, Cadmium, Copper	Hexavalent Chromium	pH
MW-01S, MW-01D	X, X	X, X	X, X	X, X
MW-03, MW-04A	X, X	X, X	X, X	X, X
MW-11 MW-06B	X, X	X, X	X, X	X, X
MW-06D, MW-07	X, X	X, X	X, X	X, X
MW-09, MW-04	X, X	X, X	X, X	X, X
MW-14S, MW-15S	X, X	X, X	X, X	X, X
MW-15D, MW-16	X, X	X, X	X, X	X, X

Beginning with the January 1997 sampling event, EPA Method 8010/8020 was replaced with EPA Method 8260. This change was requested by the analytical laboratory, which no longer performs 8010/8020 analysis. Methyl tertiary butyl ether (MTBE) analysis was performed once, in January 1997. Since there were no detections of MTBE in any of the groundwater samples, this analysis was discontinued. Starting with the October 2000 sampling event, the analytical method for hexavalent chromium was changed from EPA Method 7196 to 7199. DTSC requested that six selected wells be analyzed for 1,4-Dioxane in July 2001 and October 2001. After these two events, 1,4-Dioxane analysis was discontinued.

Statistical analysis was historically conducted annually. Beginning with the October 1993 sampling event, statistical analysis has been performed on a quarterly basis, as requested by DTSC.

During 2000, three sampling events were performed (January, April and October). Sampling and reporting frequency was changed from quarterly to semi-annual after the April 2000 sampling event. However, quarterly groundwater monitoring resumed in April 2001 at the request of DTSC. The next quarterly event will occur in October 2002. During the next event, 14 on-site wells will be sampled and analyzed for volatile organics using EPA Method 8260, chromium, cadmium, copper, hexavalent chromium, and pH. The water levels at the 14 wells sampled, in addition to the remaining unsampled wells (with the exception of MW-02), will also be measured.

Section 9
References

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Appendix A
General Analytical Detection Limits

TABLE A-1

PHIBRO-TECH, INC.

HEAVY METALS AND INORGANICS ANALYSIS

Typical Detection Limits

Method	Parameter	Detection Limit	Units
EPA 6010-L	Antimony	0.06	mg/L
EPA 6010-L	Barium	0.01	mg/L
EPA 6010-L	Beryllium	0.002	mg/L
EPA 6010-L	Cadmium	0.005	mg/L
EPA 6010-L	Chromium	0.01	mg/L
EPA 6010-L	Cobalt	0.01	mg/L
EPA 6010-L	Copper	0.02	mg/L
EPA 6010-L	Lead	0.05	mg/L
EPA 6010-L	Molybdenum	0.02	mg/L
EPA 6010-L	Nickel	0.04	mg/L
EPA 6010-L	Silver	0.01	mg/L
EPA 6010-L	Thallium	0.5	mg/L
EPA 6010-L	Tin	0.1	mg/L
EPA 6010-L	Vanadium	0.01	mg/L
EPA 6010-L	Zinc	0.02	mg/L
EPA 7199	Chromium, Hexavalent	0.001	mg/L
EPA 7061-L	Arsenic	0.005	mg/L
EPA 9012	Cyanide, Total	0.01	mg/L
EPA 7470	Mercury	0.001	mg/L
EPA 300.0	Chloride	5	mg/L
EPA 300.0	Nitrate	0.2	mg/L
EPA 7741-L	Selenium	0.1	mg/L
EPA 376.2	Sulfide, as Sulfur	1.2	mg/L

TABLE A-2

PHIBRO-TECH, INC.

VOLATILE ORGANIC COMPOUNDS

Typical Detection Limits

Method Number	Analytical Parameter	Detection Limit	Units
EPA 8260	Benzene	0.5	µg/L
EPA 8260	Toluene	1.0	µg/L
EPA 8260	Ethylbenzene	1.0	µg/L
EPA 8260	Xylenes, Total	1.0	µg/L
EPA 8260	Chloromethane	1.0	µg/L
EPA 8260	Bromomethane	1.0	µg/L
EPA 8260	Vinyl Chloride	1.0	µg/L
EPA 8260	Chloroethane	1.0	µg/L
EPA 8260	Methylene Chloride	1.0	µg/L
EPA 8260	Trichlorofluoromethane	1.0	µg/L
EPA 8260	1,1-Dichloroethene	1.0	µg/L
EPA 8260	1,1-Dichloroethane	1.0	µg/L
EPA 8260	trans-1,2-Dichloroethene	1.0	µg/L
EPA 8260	Chloroform	1.0	µg/L
EPA 8260	1,2-Dichloroethane	1.0	µg/L
EPA 8260	1,1,1-Trichloroethane	1.0	µg/L
EPA 8260	Carbon Tetrachloride	1.0	µg/L
EPA 8260	Bromodichloromethane	1.0	µg/L
EPA 8260	1,2-Dichloropropane	1.0	µg/L
EPA 8260	trans-1,3-Dichloropropene	1.0	µg/L
EPA 8260	Trichloroethene	1.0	µg/L
EPA 8260	Dibromochloromethane	1.0	µg/L
EPA 8260	1,1,2-Trichloroethane	1.0	µg/L
EPA 8260	cis-1,3-Dichloropropene	1.0	µg/L
EPA 8260	2-Chloroethylvinyl ether	1.0	µg/L
EPA 8260	Bromoform	1.0	µg/L
EPA 8260	Tetrachloroethene	1.0	µg/L
EPA 8260	1,1,2,2-Tetrachloroethane	1.0	µg/L
EPA 8260	Chlorobenzene	1.0	µg/L
EPA 8260	1,2-Dichlorobenzene	1.0	µg/L
EPA 8260	1,3-Dichlorobenzene	1.0	µg/L
EPA 8260	1,4-Dichlorobenzene	1.0	µg/L

Appendix B
Historical Sampling Results

CDM

Shallow Wells
PHIBRO-TECH, INC.
Historical Results
January 1989 to July 2001

		METALS				VOLATILE ORGANIC COMPOUNDS				
Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW - 1S										
Jan-89	96.74	ND < 0.01	0.014	ND < 0.003	ND < 0.009	ND < 0.01	ND < 0.0	ND < 0.0	ND < 0.0	19
Apr-89	100.45	ND < 0.05	0.1	ND < 0.01	ND < 0.02	ND < 0.7	ND < 1.0	ND < 1.0	3.0	23
Jul-89	99.00	ND < 0.05	0.06	0.01	0.03	ND < 0.7	ND < 1.0	ND < 1.0	ND < 1.0	13
Oct-89	96.76	ND < 0.05	ND < 0.02	ND < 0.01	ND < 0.05	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	12
Jan-90	97.73	ND < 0.02	ND < 0.01	ND < 0.01	ND < 0.02	ND < 0.5	ND < 0.5	ND < 0.5	ND < 1.0	16
Apr-90	99.30	ND < 0.02	0.02	ND < 0.0050	0.02	ND < 2.5	ND < 2.5	ND < 2.5	ND < 5.0	20
Jul-90	100.83	ND < 0.02	ND < 0.01	ND < 0.01	0.03	ND < 0.5	ND < 0.5	ND < 0.5	ND < 1.0	18
Oct-90	99.81	ND < 0.02	ND < 0.01	ND < 0.0050	0.023	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	18
Jan-91	99.19	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	26
Apr-91	101.95	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	22
Jul-91	102.94	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	17
Oct-91	102.33	ND < 0.02	0.01	ND < 0.0050	0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	14
Jan-92	104.60	0.10	0.0081	ND < 0.0027	0.04	ND < 1	1.5	1.2	4.3	13
Apr-92	107.28	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	9.9
Jul-92	107.87	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	10
Oct-92	105.53	ND < 0.02	ND < 0.01	ND < 0.0050	0.035	0.95	ND < 1.0	ND < 1.0	ND < 1.0	11
Jan-93	109.82	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	2.2	1.3	5.6	9.2
Apr-93	116.01	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	5.7
Jul-93	116.59	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	1.7	1.7	4.0	11
Oct-93	116.50	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	2.2	4.3	14
Jan-94	116.60	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	9.3
Apr-94	117.10	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	14
Jul-94	117.80	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	7.9
Oct-94	112.23	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	5.8	13
Jan-95	113.59	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	5.2
Apr-95	118.78	ND < 0.02	0.0029	ND < 0.01	ND < 0.02	ND < 0.5	ND < 1.0	1.3	1.0	4.4
Jul-95	120.06	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	1.2	3.5	6.1	6.2
Oct-95	116.48	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	1.7	3.9	15
Jan-96	114.84	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	1.7	5.1	8.4
Apr-96	118.03	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	3.4	4.9	2.9
Jul-96	117.42	ND < 0.01	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	2.2	3.7	9.7
Oct-96	113.85	ND < 0.01	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	2.1	2.8	16
Jan-97	115.73	ND < 0.02	ND < 0.01	ND < 0.0050	0.022	ND < 0.5	ND < 1.0	ND < 1.0	2.0	6.0
Apr-97	118.21	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	1.4	1.2	15
Jul-97	118.18	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	14
Oct-97	114.82	ND < 0.02	ND < 0.01	ND < 0.0050	0.023	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	12
Jan-98	113.23	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	12
Apr-98	118.16	ND < 0.02	ND < 0.01	ND < 0.0050	0.021	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	14
Jul-98	119.12	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	14
Oct-98	116.57	ND < 0.02	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	7.8
Jan-99	113.94	ND < 0.01	ND < 0.01	ND < 0.0050	ND < 0.02	ND < 0.5	ND < 1.0	2.0	ND < 1.0	10
Apr-99	114.01	ND < 0.025	ND < 0.01	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 2.0	7.2
Jul-99	113.62	ND < 0.020	ND < 0.010	ND < 0.0050	0.052	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	9.1
Oct-99	106.70	ND < 0.010	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 2.0	9.1
Jan-00	102.73	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	9.9
Apr-00	108.83	ND < 0.010	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	16
Oct-00	109.09	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	8.9
Apr-01	109.01	ND < 0.0020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	13

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		METALS				VOLATILE ORGANIC COMPOUNDS				
Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW - 3										
Jan-89	95.02	ND < 0.01	0.014	0.003	ND < 0.009	7.4	17.0	4900.0	1500.0	74
Apr-89	99.29	ND < 0.5	0.07	ND < 0.01	ND < 0.02	ND < 50	ND < 50.0	1200.0	60.0	110
Jul-89	98.21	ND < 0.5	0.06	ND < 0.01	ND < 0.02	ND < 7	ND < 10.0	ND < 10.0	ND < 10.0	120
Oct-89	94.75	ND < 0.5	ND < 0.02	ND < 0.01	ND < 0.05	ND < 50	ND < 100.0	1600.0	150.0	ND < 100
Jan-90	95.98	ND < 0.02	ND < 0.01	ND < 0.01	ND < 0.02	ND < 5	ND < 5.0	110.0	ND < 10.0	65
Apr-90	97.72	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 50	ND < 50.0	2100.0	720.0	74
Jul-90	99.27	ND < 0.02	ND < 0.01	ND < 0.01	ND < 0.02	ND < 5	ND < 5.0	ND < 5.0	ND < 10.0	130
Oct-90	97.29	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	9	2.0	ND < 1.0	ND < 1.0	130
Jan-91	97.69	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	38
Apr-91	99.81	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	27
Jul-91	101.63	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	28
Oct-91	100.99	ND < 0.02	ND < 0.01	ND < 0.005	0.03	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	71
Jan-92	103.44	ND < 0.5	0.0081	ND < 0.0027	0.02	ND < 1	ND < 1.0	ND < 1.0	4.0	76
Apr-92	106.04	ND < 0.02	ND < 0.02	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 5.0	25
Jul-92	106.61	ND < 0.02	ND < 0.02	ND < 0.005	0.13	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	76
Oct-92	103.93	ND < 0.02	ND < 0.02	ND < 0.005	0.038	0.52	ND < 1.0	ND < 1.0	ND < 1.0	130
Jan-93	107.28	ND < 0.02	ND < 0.01	ND < 0.005	0.096	ND < 2.5	ND < 5.0	ND < 5.0	ND < 5.0	84
Apr-93	115.17	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	12
Jul-93	115.92	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	3.3	2.6	5.9	16
Oct-93	115.67	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	2.6	4.8	17
Jan-94	115.59	ND<0.02/0.4**	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	10
Apr-94	116.33	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	15
Jul-94	116.91	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	26
Oct-94	110.85	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	1.2	3.5	1.5	12.0	76
Jan-95	111.83	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	72
Apr-95	117.83	ND < 0.02	0.0023	ND < 0.001	ND < 0.02	ND < 0.5	ND < 1.0	1.3	ND < 1.0	57
Jul-95	119.20	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	2.0	5.2	8.8	9.5
Oct-95	115.45	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	1.7	3.3	30
Jan-96	113.41	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	5.1	26
Apr-96	116.73	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	2.6	3.6	46
Jul-96	116.33	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.8	9.0	12.0	17
Oct-96	112.45	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	5.4	6.2	21
Jan-97	114.19	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	2.6	1.1	4.2	28
Apr-97	117.13	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	4.3	2.1	3.0	13
Jul-97	117.18	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	2.5	3.7	13
Oct-97	113.60	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	0.57	ND < 1.0	1.7	1.2	24
Jan-98	111.68	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	1.3	ND < 1.0	25
Apr-98	116.82	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	18
Jul-98	118.02	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	25
Oct-98	115.40	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	24
Jan-99	112.48	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	2.3	ND < 1.0	26
Apr-99	112.49	ND < 0.025	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1.0	ND < 1.0	1.1	ND < 2.0	21
Jul-99	112.31	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	1.3	ND < 1.0	43
Oct-99	104.42	ND < 0.010	0.017	ND < 0.0050	ND < 0.025	ND < 5.0	ND < 5.0	200	ND < 10	150
Jan-00	100.50	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 2.5	ND < 2.5	54	70	170
Apr-00	107.20	ND < 0.010	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 2.5	ND < 2.5	65	2.5	170
Oct-00	107.46	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	2	ND < 1.0	43
Apr-01	107.55	0.0007	0.017	ND < 0.0050	ND < 0.025	ND <2.0	ND < 2.0	12	3.1	150

** Hexavalent chromium sample or result for MW03 likely switched with MW30 (duplicate of MW04).

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		METALS				VOLATILE ORGANIC COMPOUNDS				
Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW - 4										
Jan-89	95.21	33.0	400.0	0.028	ND < 0.009	ND < 0.5	10.0	15.0	29.0	120
Apr-89	99.19	43.0	100.0	0.05	0.02	ND < 5	23.0	15.0	50.0	280
Jul-89	98.19	120.0	98.0	0.08	0.06	ND < 14	ND < 20.0	140.0	40.0	290
Oct-89	94.92	110.0	120.0	0.07	ND < 0.05	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	250
Jan-90	95.87	109.0	95.1	0.12	ND < 0.02	ND < 12	ND < 12.0	ND < 12.0	ND < 25.0	220
Apr-90	97.50	81.7	80.7	0.13	0.02	ND < 10	ND < 10.0	ND < 10.0	ND < 20.0	280
Jul-90	99.20	100.0	101.0	0.35	ND < 0.02	ND < 50	ND < 50.0	1600.0	170.0	320
Oct-90	98.33	58.9	48.4	0.23	0.022	ND < 0.5	17.0	230.0	650.0	250
Jan-91	97.68	49.4	65.3	0.26	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	1200.0	180
Apr-91	100.50	23.8	18.4	0.076	ND < 0.02	ND < 0.5	ND < 1.0	730.0	ND < 1.0	170
Jul-91	101.47	39.1	78.5	0.61	ND < 0.02	ND < 0.5	16000.0	6700.0	18000	190
Oct-91	100.91	42.0	40.8	0.21	ND < 0.01	ND < 0.5	6900.0	4100.0	10000	ND < 400
Jan-92	103.33	41.0	34.0	0.47	0.045	ND < 250	18,000	10,000	17,200	ND < 250
Apr-92	105.94	32.2	29.2	0.84	0.053	6.7	7.2	960.0	1010.0	280
Jul-92	106.5	79.9	59.7	0.86	ND < 0.02	ND < 5	ND < 10.0	200.0	280.0	280
Oct-92	103.92	21.6	27.1	0.32	ND < 0.02	71	ND < 10.0	1300.0	230.0	230
Jan-93	107.13	16.4	27.4	0.28	ND < 0.02	ND < 130	10000.0	10000	19000	ND < 250
Apr-93	115	1.8	2.2	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	88.0	13.0	25
Jul-93	115.52	21.0	23.2	0.2	0.056	0.6	2.0	1.8	11.0	100
Oct-93	115.76	* 35.5/99.2	80.3	0.71	ND < 0.2	1.3	ND < 1.0	ND < 1.0	40.0	290
Jan-94	115.42	0.36	36.0	0.23	ND < 0.02	0.81	ND < 1.0	8.3	14.0	130
Apr-94	116.20	26.9	26.4	0.33	ND < 0.02	ND < 0.5	ND < 1.0	4.0	6.5	190
Jul-94	116.76	59.0	41.4	0.20	0.038	0.58	ND < 1.0	ND < 1.0	4.2	340
Oct-94	110.86	60.7	52.8	0.45	ND < 0.02	ND < 5	ND < 10.0	270.0	39.0	390
Jan-95	111.88	28.8	34.3	0.13	0.026	ND < 5	ND < 10.0	350.0	130.0	190
Apr-95	117.69	8.6	9.1	0.21	0.052	ND < 100	1600.0	1700.0	2900.0	67
Jul-95	119.05	* 28.1/20.8	29.6	0.27	*.10/ND < 0.02	ND < 10	* 270/410	* 260/380	* 890/1300	90
Oct-95	115.35	**30.8	28.9	0.38	ND < 0.02	ND < 2.5	ND < 5.0	75.0	21.0	150
Jan-96	113.37	25.7	32.4	0.19	ND < 0.02	ND < 50	100.0	2100.0	1400.0	160
Apr-96	116.65	* 32.2/24.6	38.0	0.60	ND < 0.02	ND < 25	680.0	1300.0	1400.0	130
Jul-96	116.17	50	58.9	0.28	ND < 0.02	ND < 50	ND < 100.0	1000.0	270.0	140
Oct-96	112.38	63.8	75.7	0.46	ND < 0.04	ND < 50	380.0	1100.0	1900.0	310
Jan-97	114.07	*45.9/34.9	34.5	0.54	0.02	ND < 6.2	ND < 12.0	1100.0	ND < 12.0	330
Apr-97	116.96	27.3	18.8	0.53	ND < 0.02	ND < 12	35.0	1300.0	620.0	150
Jul-97	117.04	36.0	35.2	0.62	ND < 0.02	ND < 5	ND < 10.0	810.0	110.0	150
Oct-97	113.46	73.8	85.3	0.64	ND < 0.08	ND < 5	ND < 10.0	460.0	31.0	230
Jan-98	111.66	39.2	44.0	0.53	ND < 0.02	ND < 5	ND < 10.0	530.0	420.0	180
Apr-98	116.69	7.2	14.1	0.43	ND < 0.02	2.9	ND < 5.0	320.0	ND < 5.0	92
Jul-98	117.95	16.3	18.9	0.32	ND < 0.02	ND < 12	ND < 25.0	1200.0	300.0	120
Oct-98	115.31	34.1	36.2	0.44	0.030	ND < 6.2	ND < 12.0	740.0	240.0	120
Jan-99	112.41	78.6	85.2	0.58	ND < 0.04	ND < 5	ND < 10	520.0	31.0	260
Apr-99	112.43	*0.57/4.6	42.8	0.41	ND < 0.05	3.5	ND < 2.5	220	9.9	190
Jul-99	112.33	41.1	49.7	0.42	ND < 0.050	ND < 10	ND < 10	670	67	140
Oct-99	104.49	58.2	105	0.59	ND < 0.075	ND < 5.0	ND < 5.0	92	11	210
Jan-00	100.66	76.3	60.0	0.32	ND < 0.050	5.1	ND < 2.5	ND < 2.5	6.0	160
Apr-00	**107.01**	**32.9**	**39.3**	**0.55**	**ND < 0.050**	**ND < 5.0**	**ND < 5.0**	**46**	**8.6**	**240**
Oct-00	**107.42**	**45.6**	**42.1**	**0.52**	**ND < 0.050**	**ND < 50**	**2500**	**2500**	**ND < 50**	**170**
Apr-01	107.49	11.0	16.8	0.38	ND < 0.025	ND < 50	120	3,100	830	150

* 35.5/99.2 = original sample/duplicate sample (both results presented because duplicate result deviation is >20%)

** Analyzed after holding time had expired.

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January 1989 to July 2001

		METALS				VOLATILE ORGANIC COMPOUNDS				
Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW - 6B										
Jan-89	95.12	ND < 0.01	ND < 0.014	ND < 0.003	ND < 0.009	ND < 0.01	ND < 0.0	ND < 0.0	ND < 0.0	57
Apr-89	99.11	ND < 0.05	0.06	ND < 0.01	ND < 0.02	ND < 0.7	ND < 1.0	ND < 1.0	ND < 1.0	37
Jul-89	98.39	ND < 0.05	0.04	ND < 0.01	ND < 0.02	ND < 0.7	ND < 1.0	ND < 1.0	ND < 1.0	29
Oct-89	95.35	ND < 0.05	ND < 0.02	ND < 0.01	ND < 0.05	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	29
Jan-90	96.1	ND < 0.02	ND < 0.01	ND < 0.01	ND < 0.02	ND < 0.5	ND < 0.5	ND < 0.5	ND < 1.0	46
Apr-90	97.76	ND < 0.02	0.02	ND < 0.005	ND < 0.02	ND < 2.5	ND < 2.5	ND < 2.5	ND < 5.0	61
Jul-90	99.28	ND < 0.02	0.02	ND < 0.01	ND < 0.02	ND < 0.5	ND < 0.5	ND < 0.5	ND < 1.0	51
Oct-90	98.45	ND < 0.02	0.012	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	52
Jan-91	97.87	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	59
Apr-92	105.86	ND < 0.02	0.014	ND < 0.005	ND < 0.02	ND < 0.5	ND < 0.5	1.1	0.8	19
Jul-92	106.57	ND < 0.02	0.019	ND < 0.005	0.054	ND < 0.5	ND < 0.5	ND < 1.0	ND < 1.0	10
Oct-92	104.12	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	12.0	2.9	13.0	9.3
Jan-93	107.23	ND < 0.02	0.011	ND < 0.005	0.038	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	6.9
Apr-93	114.64	ND < 0.02	0.014	ND < 0.005	ND < 0.02	ND < 0.5	64.0	26.0	88.0	2.6
Jul-93	115.34	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	2.2	2.0	5.5	2.7
Oct-93	115.46	ND < 0.02	0.011	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	5.9
Jan-94	115.37	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	2.7
Apr-94	116.15	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	2.0
Jul-94	116.67	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.1	ND < 1.0	1.9	2.9
Oct-94	111.13	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.5	ND < 1.0	8.2	1.5
Jan-95	112.19	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 1	110.0	89.0	110.0	8.6
Apr-95	117.42	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.6	9.1	6.2	2.3
Jul-95	118.93	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.1	4.0	5.1	8.8
Oct-95	115.45	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	1.0	2.6
Jan-96	113.47	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 1	28.0	27.0	53.0	14
Apr-96	116.65	ND < 0.02	0.011	ND < 0.005	ND < 0.02	ND < 1	4.2	37.0	50.0	2.9
Jul-96	116.18	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	2.3	3.5	2.3
Oct-96	112.66	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.0	2.1	2.8	6.1
Jan-97	114.20	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	4.3	4.3	6.4	5.0
Apr-97	116.95	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	3.6	1.7	ND < 1.0	5.2
Jul-97	117.01	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	6.6
Oct-97	113.71	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	6.4
Jan-98	112.06	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	15.0	32.0	39.0	17.0
Apr-98	116.76	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.6	4.2	6.0	7.7
Jul-98	117.95	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	4.3
Oct-98	114.83	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	9.9
Jan-99	112.74	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	5.0	24.0	29.0	17.0
Apr-99	112.56	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1.0	19	42	33.9	31
Jul-99	112.43	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND <1.0	ND <1.0	1.2	ND < 1.0	8.2
Oct-99	105.04	ND < 0.010	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	4.8	ND < 1.0	12.0
Jan-00	101.26	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND <1.0	ND <1.0	2.0	ND < 1.0	13.0
Apr-00	107.21	ND < 0.010	ND < 0.010	ND < 0.0050	ND < 0.025	ND <1.0	ND <1.0	1.1	ND < 1.0	7.0
Oct-00	107.55	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	9.2
Apr-01	107.58	0.0051	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	5.9

Shallow Wells
PHIBRO-TECH, INC.
Historical Results
January 1989 to July 2001

		METALS				VOLATILE ORGANIC COMPOUNDS				
Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW - 7										
Jan-89	89.47	ND < 0.01	ND < 0.014	ND < 0.003	ND < 0.009	ND < 0.5	1.4	1.2	3.6	35
Apr-89	98.83	ND < 0.05	0.02	ND < 0.01	ND < 0.02	ND < 0.7	ND < 1.0	ND < 1.0	ND < 1.0	47
Jul-89	97.90	ND < 0.05	0.03	ND < 0.01	ND < 0.05	ND < 0.7	ND < 1.0	ND < 1.0	ND < 1.0	25
Oct-89	94.72	ND < 0.05	ND < 0.02	ND < 0.01	ND < 0.05	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	44
Jan-90	95.58	ND < 0.02	ND < 0.01	ND < 0.01	ND < 0.02	ND < 2.5	ND < 2.5	ND < 2.5	ND < 5.0	39
Apr-90	97.32	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 2.5	ND < 2.5	ND < 2.5	ND < 5.0	46
Jul-90	98.85	ND < 0.02	ND < 0.01	ND < 0.01	ND < 0.02	ND < 1	ND < 1.0	ND < 1.0	ND < 2.0	34
Oct-90	98.02	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	19
Jan-91	97.41	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	1.8
Apr-91	100.06	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	30
Jul-91	101.20	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	53
Oct-91	100.62	ND < 0.02	ND < 0.01	ND < 0.005	0.01	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	54
Jan-92	102.90	0.07	ND < 0.0081	ND < 0.0027	0.14	ND < 1	ND < 1.0	ND < 1.0	ND < 1.0	120
Apr-92	105.54	ND < 0.02	0.013	ND < 0.005	0.032	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	55
Jul-92	103.13	ND < 0.02	0.095	ND < 0.005	0.21	ND < 1	ND < 2.0	ND < 2.0	ND < 2.0	53
Oct-92	103.68	ND < 0.02	0.063	ND < 0.005	0.65	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	98
Jan-93	106.82	ND < 0.02	0.033	ND < 0.005	0.19	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	73
Apr-93	114.54	ND < 0.02	0.011	ND < 0.005	ND < 0.02	ND 1.2	ND < 2.5	90.0	5.6	23
Jul-93	115.14	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 5	ND < 10.0	210.0	ND < 10.0	43
Oct-93	115.23	ND < 0.2	ND < 0.01	ND < 0.005	0.02	0.82	ND < 1.0	7.2	ND < 1.0	44
Jan-94	115.08	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	1.4	ND < 1.0	33.0	ND < 1.0	53
Apr-94	115.88	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND< 2.5	ND < 5.0	200.0	ND < 5.0	96
Jul-94	116.44	ND < 0.02	ND < 0.01	ND < 0.005	0.023	0.88	ND < 1.0	7.7	1.2	140
Oct-94	110.69	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	5.1	5.5	98
Jan-95	111.59	ND < 0.02	ND < 0.01	ND < 0.005	0.026	ND < 0.5	7.0	8.7	10.0	170
Apr-95	117.24	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	1.3	ND < 1.0	26
Jul-95	118.63	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	2.1	3.4	53
Oct-95	115.08	ND < 0.02	0.014	ND < 0.005	0.079	0.74	ND < 1.0	3.8	1.4	98
Jan-96	112.98	ND < 0.02	ND < 0.01	ND < 0.005	0.043	1.0	4.2	4.9	10.0	85
Apr-96	116.39	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.3	11.0	14.0	37
Jul-96	115.83	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	1.0	ND < 1.0	1.6	2.7	87
Oct-96	112.17	ND < 0.01	ND < 0.01	ND < 0.005	0.036	0.96	ND < 1.0	1.4	1.5	150
Jan-97	113.76	ND < 0.02	ND < 0.01	ND < 0.005	0.029	ND < 0.5	ND < 1.0	1.7	2.8	95
Apr-97	116.62	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.1	1.2	ND < 1.0	63
Jul-97	116.74	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	0.56	ND < 1.0	ND < 1.0	ND < 1.0	54
Oct-97	111.27	ND < 0.02	ND < 0.01	ND < 0.005	0.025	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	85
Jan-98	111.47	ND < 0.02	0.01	ND < 0.005	0.044	ND < 0.5	2.2	5.2	6.8	97
Apr-98	116.38	ND < 0.02	0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	1.6	1.8	23
Jul-98	117.62	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	53
Oct-98	115.06	ND < 0.02	ND < 0.01	ND < 0.005	0.042	0.68	ND < 1.0	ND < 1.0	ND < 1.0	88
Jan-99	112.28	ND < 0.02	ND < 0.01	0.0056	0.05	ND < 1.2	ND < 2.5	ND < 2.5	ND < 2.5	160
Apr-99	112.11	ND < 0.01	ND < 0.01	ND < 0.005	0.042	ND < 2.0	3.0	11	6.8	80
Jul-99	112.09	ND < 0.020	ND < 0.020	ND < 0.010	0.068	ND < 1.0	ND < 1.0	1.3	ND < 1.0	65
Oct-99	104.50	ND < 0.010	ND < 0.010	ND < 0.0050	0.071	ND < 2.0	ND < 2.0	ND < 2.0	ND < 2.0	130
Jan-00	100.67	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	47
Apr-00	106.84	ND < 0.010	ND < 0.010	ND < 0.0050	0.035	ND < 1.0	ND < 1.0	1.2	ND < 1.0	48
Oct-00	107.24	ND < 0.020	ND < 0.010	ND < 0.0050	0.057	ND < 2.5	ND < 2.5	ND < 2.5	ND < 2.5	110
Apr-01	107.22	0.001	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	78

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Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW-9										
Jan-89	95.55	0.45	0.33	ND < 0.003	ND < 0.009	ND < 0.5	ND < 0.5	ND < 0.5	ND < 1.0	55
Apr-89	99.67	ND < 0.02	0.06	ND < 0.01	ND < 0.02	ND < 0.7	ND < 1.0	ND < 1.0	ND < 1.0	24
Jul-89	98.77	ND < 0.05	0.17	ND < 0.01	0.02	ND < 0.7	ND < 1.0	ND < 1.0	ND < 1.0	57
Oct-89	95.62	2.5	1.8	ND < 0.01	ND < 0.05	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	110
Jan-90	96.44	2.28	2.2	ND < 0.01	ND < 0.02	ND < 2.5	ND < 2.5	ND < 2.5	ND < 5.0	100
Apr-90	98.26	0.8	0.81	ND < 0.005	ND < 0.02	ND < 2.5	ND < 2.5	ND < 2.5	ND < 5.0	150
Jul-90	99.78	0.03	0.04	ND < 0.01	ND < 0.02	ND < 2.5	ND < 2.5	ND < 2.5	ND < 5.0	64
Oct-90	98.69	0.25	0.19	ND < 0.005	0.062	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	17
Jan-91	98.04	0.124	0.085	ND < 0.005	ND < 0.02	ND < 0.5	6.6	1.4	9.0	26
Apr-91	100.83	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	26
Jul-91	101.88	ND < 0.02	0.027	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	99.0	ND < 1.0	41
Oct-91	101.30	0.05	0.07	ND < 0.005	ND < 0.01	ND < 0.5	ND < 1.0	94.0	ND < 1.0	120
Jan-92	103.62	ND < 0.05	ND < 0.0081	ND < 0.0027	0.031	ND < 1	ND < 1.0	1220.0	92.0	45
Apr-92	106.27	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.05	2800.0	3600.0	6190.0	52
Jul-92	106.93	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.05	34000.0	7900.0	24000	ND < 1000
Oct-92	104.3	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 1000	83000.0	13000	58000	ND < 1000
Jan-93	107.56	ND < 0.02	0.057	ND < 0.005	0.053	ND < 50	400.0	3900.0	5300.0	ND < 100
Apr-93	115.26	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 50	5100.0	4000.0	9200.0	110
Jul-93	115.81	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 16	ND < 33.0	160.0	74.0	1100
Oct-93	115.79	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 2.5	ND < 5.0	120.0	45.0	390
Jan-94	115.76	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 10	48.0	290.0	220.0	230
Apr-94	116.51	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 500	17000.0	12000	32000	270
Jul-94	117.03	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 1000	56000.0	15000	40000	200
Oct-94	111.17	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 500	57000.0	11000	34000	350
Jan-95	112.25	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 250	8200.0	9800.0	2000.0	310
Apr-95	117.92	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 50	ND < 100.0	650.0	480.0	670
Jul-95	119.31	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 10	69.0	780.0	340.0	540
Oct-95	115.67	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 25	110.0	670.0	1900.0	320
Jan-96	113.73	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 50	100.0	4300.0	6100.0	500
Apr-96	117.00	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	3.3	5.5	24.0	22.0	580
Jul-96	116.49	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	4.6	ND < 2.0	42.0	4.3	570
Oct-96	112.73	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	ND < 50	ND < 100.0	2900.0	350.0	470
Jan-97	114.46	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 2.5	ND < 5.0	ND < 5.0	ND < 5.0	400
Apr-97	117.29	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 5	ND < 10.0	18.0	ND < 10.0	770
Jul-97	117.34	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 25	ND < 50.0	2500.0	860.0	850
Oct-97	113.75	ND < 0.02	0.048	ND < 0.005	ND < 0.02	ND < 25	150.0	1900.0	4800.0	ND < 50
Jan-98	112.06	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 5	ND < 10.0	690.0	260.0	270
Apr-98	117.07	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 5	ND < 10.0	23.0	ND < 10.0	390
Jul-98	118.26	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 12	ND < 25.0	73.0	ND < 25.0	1300
Oct-98	115.49	3.3	1.3	0.0075	0.34	7.4	ND < 12.0	390.0	ND < 12.0	1200
Jan-99	112.68	3.3	2.4	ND < 0.005	ND < 0.02	ND < 6.2	ND < 12.0	100.0	83.0	550
Apr-99	112.77	ND < 0.01	0.64	ND < 0.005	ND < 0.025	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	350
Jul-99	112.57	5.8	5.6	ND < 0.010	ND < 0.050	ND < 25	ND < 25	ND < 25	ND < 25	810
Oct-99	104.91	4.0	4.2	ND < 0.0050	ND < 0.025	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	280
Jan-00	101.15	14.1	13.9	ND < 0.0050	ND < 0.025	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	170
Apr-00	107.56	ND < 0.010	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	370
Oct-00	107.81	ND < 0.020	0.014	ND < 0.0050	ND < 0.025	ND < 5.0	ND < 5.0	29.0	ND < 5.0	160
Apr-01	107.89	0.0043	0.011	ND < 0.0050	ND < 0.025	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	200

Shallow Wells
PHIBRO-TECH, INC.
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		METALS				VOLATILE ORGANIC COMPOUNDS				
Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW - 11										
Jan-89	95.97	ND < 0.01	ND < 0.014	ND < 0.003	ND < 0.009	ND < 0.5	ND < 0.5	43.0	1.5	34
Apr-89	99.85	ND < 0.02	0.04	ND < 0.01	ND < 0.02	ND < 500	7500.0	2600.0	11000	39
Jul-89	98.95	ND < 0.05	ND < 0.02	ND < 0.01	0.13	ND < 7	ND < 10.0	ND < 10.0	90.0	29
Oct-89	95.77	ND < 0.05	ND < 0.02	ND < 0.01	ND < 0.05	ND < 5	ND < 10.0	200.0	ND < 10.0	35
Jan-90	96.72	ND < 0.02	ND < 0.01	ND < 0.01	ND < 0.02	ND < 5	ND < 5.0	83.0	ND < 10.0	46
Apr-90	98.44	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 2.5	2.6	370.0	150.0	33
Jul-90	100.00	ND < 0.02	ND < 0.01	ND < 0.01	0.03	ND < 25	440.0	1000.0	760.0	65
Oct-90	98.97	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	15000.0	3000.0	10000	ND < 1
Jan-91	98.29	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	15000.0	4700.0	12000	ND < 1
Apr-91	101.17	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	8500.0	3300.0	7500.0	63
Jul-91	102.19	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	57.0	520.0	220.0	61
Oct-91	101.61	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.01	ND < 0.5	140.0	2000.0	660.0	110
Jan-92	104.09	0.10	ND < 0.0081	ND < 0.0027	0.02	ND < 1	7.3	230.0	26.0	85
Apr-92	106.61	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.01	ND < 0.05	1.7	130.0	2.3	70
Jul-92	107.12	ND < 0.02	0.02	ND < 0.005	0.09	ND < 0.05	ND < 0.1	17.0	ND < 0.1	160
Oct-92	104.55	ND < 0.02	0.011	ND < 0.005	ND < 0.01	ND < 0.05	ND < 0.1	11.0	ND < 0.1	160
Jan-93	108.27	ND < 0.02	0.013	ND < 0.005	0.088	ND < 1.2	ND < 2.5	110.0	ND < 2.5	86
Apr-93	115.6	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.05	ND < 1.0	2.0	ND < 1.0	59
Jul-93	116.07	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.05	2.5	1.8	6.4	230
Oct-93	116.01	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	2.1	3.1	150
Jan-94	116.03	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	2.5	2.8	190
Apr-94	116.83	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	80
Jul-94	117.23	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	1.6	180
Oct-94	111.30	ND < 0.02	0.011	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	4.5	ND < 1.0	360
Jan-95	112.53	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 10	660.0	850.0	1100.0	660
Apr-95	118.26	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 50	ND < 100.0	1900.0	1000.0	74
Jul-95	119.51	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 2.5	ND < 5.0	160.0	37.0	140
Oct-95	115.80	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	5.8	2.2	180
Jan-96	113.98	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 25	520.0	460.0	1000.0	620
Apr-96	117.37	ND < 0.02	ND < 0.01	ND < 0.005	0.023	ND < 25	160.0	1100.0	1400.0	240
Jul-96	116.75	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	ND < 10	ND < 20.0	460.0	290.0	220
Oct-96	112.95	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.9	20.0	8.0	250
Jan-97	114.78	ND < 0.02	ND < 0.01	ND < 0.005	0.029	ND < 0.5	9.4	84.0	88.0	160
Apr-97	117.60	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 2.5	ND < 5.0	120.0	8.2	370
Jul-97	117.61	ND < 0.02	ND < 0.01	ND < 0.005	0.15	ND < 2.5	ND < 5.0	8.3	ND < 5.0	240
Oct-97	114.02	ND < 0.02	ND < 0.01	ND < 0.005	0.1	ND < 2.5	ND < 5.0	ND < 5.0	ND < 5.0	350
Jan-98	112.23	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 12	770.0	1800.0	2200.0	390
Apr-98	117.36	ND < 0.02	ND < 0.01	ND < 0.005	0.077	ND < 1.2	63.0	150.0	210.0	180
Jul-98	118.57	ND < 0.02	ND < 0.01	ND < 0.005	0.077	ND < 1.2	ND < 2.5	41.0	4.8	150
Oct-98	115.91	ND < 0.02	ND < 0.01	ND < 0.005	0.041	ND < 5	ND < 10.0	ND < 10.0	ND < 10.0	430
Jan-99	113.05	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 6.2	260.0	750.0	970.0	690
Apr-99	113.14	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.025	ND < 25	670	1600	1270	480
Jul-99	112.88	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 10	ND < 10	85	ND < 10	740
Oct-99	105.05	0.057	0.02	ND < 0.0050	ND < 0.025	ND < 10	ND < 10	480	52	650
Jan-00	101.31	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 12	ND < 12	ND < 12	ND < 12	820
Apr-00	107.91	ND < 0.010	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 12	ND < 12	55	17	1100
Oct-00	108.06	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 50	ND < 50	ND < 50	ND < 50	2900
Apr-01	108.20	ND < 0.0020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 25	ND < 25	48	ND < 25	1700

Shallow Wells
PHIBRO-TECH, INC.
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		METALS				VOLATILE ORGANIC COMPOUNDS				
Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW - 14S										
Oct-90	98.07	3.2	2.2	0.018	5.3	ND < 0.5	ND < 1.0	1750.0	ND < 1.0	180
Jan-91	97.38	0.4	0.94	0.007	1	ND < 0.5	ND < 1.0	2800.0	5900.0	108
Apr-91	99.26	0.39	0.41	0.005	0.15	ND < 0.5	ND < 1.0	4100.0	ND < 1.0	84
Jul-91	101.27	0.02	0.31	0.005	0.11	ND < 0.5	ND < 1.0	31.0	ND < 1.0	55
Oct-91	100.66	0.13	0.23	ND < 0.005	0.05	ND < 0.5	ND < 1.0	680.0	ND < 1.0	81
Jan-92	103.08	0.27	0.15	ND < 0.0027	0.093	ND < 1	ND < 1.0	ND < 1.0	ND < 1.0	59
Apr-92	105.70	0.13	0.16	ND < 0.005	0.04	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	56
Jul-92	106.38	0.1	0.33	ND < 0.005	0.56	0.6	ND < 1.0	ND < 1.0	ND < 1.0	44
Oct-92	103.72	0.16	0.54	ND < 0.005	0.72	ND < 1	ND < 1.0	ND < 1.0	ND < 1.0	71
Jan-93	107.00	0.056	0.24	ND < 0.005	0.33	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	56
Apr-93	114.80	ND < 0.02	0.018	ND < 0.005	0.032	ND < 0.5	24.0	40.0	55.0	18
Jul-93	115.36	ND < 0.02	0.20	ND < 0.005	0.023	ND < 0.5	1.3	1.2	3.8	25
Oct-93	115.42	ND < 0.02	0.01	ND < 0.005	0.021	ND < 0.5	ND < 1.0	2.1	3.7	25
Jan-94	115.28	ND < 0.02	0.015	ND < 0.005	0.022	ND < 0.5	ND < 1.0	3.2	1.4	21
Apr-94	116.06	ND < 0.02	0.022	ND < 0.005	ND < 0.020	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	29
Jul-94	116.64	ND < 0.02	0.016	ND < 0.005	ND < 0.020	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	15
Oct-94	110.70	0.035	0.064	ND < 0.005	ND < 0.020	0.53	ND < 1.0	ND < 1.0	ND < 1.0	58
Feb-95	113.10	ND < 0.02	0.016	ND < 0.005	0.020	ND < 50	ND < 100.0	3000.0	690.0	50
Apr-95	117.50	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.020	ND < 5	76.0	120.0	190.0	20
Jul-95	118.93	ND < 0.02	ND < 0.01	0.0055	ND < 0.020	ND < 0.5	2.8	26.0	12.0	22
Oct-95	115.25	0.022	0.046	ND < 0.005	ND < 0.020	ND < 0.5	ND < 1.0	2.1	2.0	35
Jan-96	113.13	ND < 0.02	0.034	ND < 0.005	0.024	ND < 1	4.7	87.0	58.0	42
Apr-96	116.52	0.021	0.028	ND < 0.005	ND < 0.020	ND < 2.5	54.0	120.0	110.0	51
Jul-96	116.04	ND < 0.01	0.069	ND < 0.005	ND < 0.020	0.58	ND < 1.0	20.0	10.0	37
Oct-96	112.22	0.052	0.082	ND < 0.005	ND < 0.020	ND < 0.5	ND < 1.0	13.0	2.9	61
Jan-97	113.85	0.024	0.031	ND < 0.005	ND < 0.020	ND < 2.5	ND < 5.0	470.0	ND < 5.0	90
Apr-97	116.82	ND < 0.02	0.032	0.0053	ND < 0.020	0.58	2.9	91.0	36.0	45
Jul-97	117.21	ND < 0.02	0.016	ND < 0.005	ND < 0.020	ND < 5	ND < 1.0	14.0	1.0	35
Oct-97	113.39	0.1	0.013	ND < 0.005	ND < 0.020	ND < 0.5	ND < 1.0	20.0	1.8	57
Jan-98	111.43	* ND/0.0103	0.018	ND < 0.005	0.020	ND < 0.5	1.1	19.0	5.0	50
Apr-98	116.47	ND < 0.02	0.018	ND < 0.005	0.023	ND < 12	ND < 25.0	1500.0	150.0	38
Jul-98	117.79	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.020	0.51	ND < 1.0	18.0	8.4	18
Oct-98	115.19	0.032	0.044	ND < 0.005	0.027	ND < 1.2	ND < 2.5	120.0	29.0	62
Jan-99	112.31	0.058	0.032	ND < 0.005	ND < 0.020	1.1	ND < 2.0	77.0	64.0	98
Apr-99	112.21	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.025	ND < 12	ND < 12	820	47	84
Jul-99	112.19	ND < 0.020	0.038	ND < 0.0050	0.037	ND < 50	ND < 50	3,000	ND < 50	74
Oct-99	104.31	0.035	0.15	0.006	0.044	2.1	ND < 2.0	120	ND < 2.0	180
Jan-00	100.43	0.11	0.26	0.0094	0.031	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	230
Apr-00	106.91	ND < 0.010	ND < 0.010	ND < 0.0050	0.025	3.2	ND < 2.0	110	ND < 2.0	60
Oct-00	107.06	0.039	0.09	ND < 0.0050	0.087	ND < 5.0	ND < 5.0	230	ND < 5.0	170
Apr-01	107.27	0.057	0.043	ND < 0.0050	0.03	2.1	ND < 2.0	9	ND < 2.0	130

* ND/10.3 = EPA method 7196/EPA Method 218.6 (Sample was analyzed for hexavalent chromium by two methods.)

Shallow Wells
PHIBRO-TECH, INC.
Historical Results
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		METALS				VOLATILE ORGANIC COMPOUNDS				
Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW - 15S										
Oct-90	97.71	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	21
Jan-91	97.10	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	4.0	1.6	4.0	13
Apr-91	99.71	ND < 0.02	ND < 0.01	0.011	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	28
Jul-91	100.94	ND < 0.02	ND < 0.01	0.014	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	17
Oct-91	100.35	ND < 0.02	0.01	0.02	0.06	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	13
Jan-92	102.72	ND < 0.051	ND < 0.0081	0.008	0.01	ND < 1	ND < 1.0	ND < 1.0	ND < 1.0	15
Apr-92	105.29	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.01	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	4.1
Jul-92	105.95	ND < 0.02	0.04	0.005	0.27	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	2.9
Oct-92	103.37	ND < 0.02	ND < 0.02	0.0073	0.047	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 1
Jan-93	106.58	ND < 0.02	0.014	0.0085	0.1	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	9.0
Apr-93	114.41	ND < 0.02	0.013	ND < 0.005	ND < 0.02	ND < 0.5	14.0	10.0	22.0	4.6
Jul-93	115.01	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.2	ND < 1.0	2.4	2.4
Oct-93	115.07	ND < 0.04	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	3.2
Jan-94	114.90	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	1.9
Apr-94	115.72	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	3.1
Jul-94	116.31	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	2.1
Oct-94	110.42	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	6.0
Jan-95	111.14	0.048	0.044	ND < 0.005	ND < 0.02	ND < 1	4.0	64.0	27.0	3.7
Apr-95	117.15	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 2.5	60.0	82.0	130.0	2.8
Jul-95	118.61	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	2.5	18.0	12.0	5.2
Oct-95	114.45	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	1.0	ND < 1.0	3.9
Jan-96	112.69	ND < 0.02	0.012	ND < 0.005	ND < 0.02	ND < 0.5	1.8	25.0	22.0	3.8
Apr-96	116.09	ND < 0.02	0.015	ND < 0.005	ND < 0.02	ND < 0.5	13.0	40.0	45.0	2.8
Jul-96	115.69	ND < 0.01	0.014	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	9.7	5.4	3.2
Oct-96	111.81	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	2.9	2.6	5.3
Jan-97	113.42	ND < 0.02	0.01	ND < 0.005	ND < 0.02	ND < 0.5	5.5	69.0	1.0	5.1
Apr-97	116.35	ND < 0.02	0.01	ND < 0.005	ND < 0.02	ND < 0.5	9.3	21.0	8.5	3.3
Jul-97	116.60	ND < 0.02	0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	8.2	1.3	4.1
Oct-97	113.08	ND < 0.02	0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	17.0	1.7	5.2
Jan-98	111.06	* ND/0.0177	0.021	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	12.0	3.7	5.0
Apr-98	116.05	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	60.0	7.2	3.1
Jul-98	117.47	ND < 0.02	0.014	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	10.0	2.9	3.4
Oct-98	114.87	ND < 0.02	0.017	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	45.0	12.0	3.9
Jan-99	111.98	0.024	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	19.0	2.2	7.0
Apr-99	111.85	ND < 0.01	0.013	ND < 0.005	ND < 0.025	ND < 1.0	ND < 1.0	23	2.2	4.2
Jul-99	111.89	ND < 0.020	0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	29	23	3.9
Oct-99	104.07	0.014	0.015	ND < 0.0050	ND < 0.025	ND < 2.0	ND < 2.0	12	ND < 2.0	6.7
Jan-00	100.09	ND < 0.020	ND < 0.010	0.012	ND < 0.025	ND < 1.0	ND < 1.0	9.3	ND < 1.0	25
Apr-00	106.56	ND < 0.010	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	17
Oct-00	106.82	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	17	ND < 1.0	6.7
Apr-01	106.99	0.0053	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	3

* ND/0.0177 = EPA method 7196/EPA Method 218.6 (Sample was analyzed for hexavalent chromium by two methods.)

Shallow Wells
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Historical Results
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		METALS				VOLATILE ORGANIC COMPOUNDS				
Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW - 16										
Apr-92	105.99	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.01	ND < 0.5	0.7	1.0	1.6	52
Jul-92	106.7	ND < 0.02	0.03	ND < 0.02	0.35	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	35
Oct-92	104.07	ND < 0.02	0.011	ND < 0.005	0.15	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	72
Jan-93	107.3	ND < 0.02	ND < 0.01	ND < 0.005	0.44	ND < 1.2	ND < 2.5	ND < 2.5	ND < 2.5	51
Apr-93	114.9	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 25	55.0	2300.0	1200.0	42
Jul-93	115.54	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 50	ND < 100.0	3100.0	2000.0	15
Oct-93	115.51	ND < 0.04	ND < 0.01	ND < 0.005	ND < 0.02	ND < 5.0	ND < 10.0	340.0	ND < 10.0	24
Jan-94	115.46	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.02	ND < 20.0	1000.0	ND < 20.0	22
Apr-94	116.25	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 10	ND < 20.0	820.0	ND < 20.0	37
Jul-94	116.78	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 25	ND < 50.0	1300.0	730.0	76
Oct-94	111.02	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.5	2.4	9.7	91
Jan-95	112.08	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	ND < 1.0	ND < 1.0	17
Apr-95	117.60	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 5	16.0	36.0	55.0	34
Jul-95	118.99	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 10	ND < 20.0	* 540/370	ND < 20.0	67
Oct-95	115.45	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	1.8	1.3	60
Jan-96	113.49	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	11.0	9.7	26
Apr-96	116.72	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	9.8	30.0	33.0	36
Jul-96	116.24	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	6.6	3.6	110
Oct-96	112.59	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.02	ND < 5	49.0	130.0	230.0	73
Jan-97	114.18	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 1	4.6	23.0	ND < 2.0	32
Apr-97	117.01	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 1	ND < 2.0	7.2	2.4	31
Jul-97	117.12	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 1.2	ND < 2.5	6.5	ND < 2.5	30
Oct-97	113.66	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 2.5	ND < 5.0	8.2	ND < 5.0	53
Jan-98	111.92	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1.0	12.0	ND < 3.8	29
Apr-98	116.79	ND < 0.02	ND < 0.01	ND < 0.005	0.023	ND < 0.5	ND < 1.0	28.0	2.7	29
Jul-98	118.00	ND < 0.02	ND < 0.01	ND < 0.005	0.031	ND < 0.5	ND < 1.0	6.0	1.8	28
Oct-98	115.42	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 2.5	ND <5.0	16.0	ND < 5.0	58
Jan-99	112.68	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 1.0	ND < 2.0	11.0	ND < 2.0	36
Apr-99	112.59	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.025	ND < 2.0	ND < 2.0	6.1	ND < 2.0	39
Jul-99	112.43	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 2.0	ND < 2.0	33	ND < 2.0	29
Oct-99	104.81	ND < 0.010	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 2.0	ND < 2.0	ND < 2.0	ND < 5.0	42
Jan-00	101.03	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	18
Apr-00	107.25	ND < 0.010	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 2.0	ND < 2.0	ND < 2.0	ND < 2.0	26
Oct-00	107.51	ND < 0.020	ND < 0.010	ND < 0.0050	0.3	ND < 2.5	ND < 2.5	7	ND < 2.5	36
Apr-01	107.60	0.0003	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 2.0	ND < 2.0	39.0	11.6	36

ND = Below detection limit as noted

MSL = Mean Sea Level

* 540/370 = original sample/duplicate sample (both results presented because duplicate result deviation is >20%)

P:\2279\2279-111\SPRDSHTS\02-04\[Apr02.xls]TAB5-1

Deep Wells
PHIBRO-TECH, INC.
July 2001 Monitoring
Historical Results

Monitor Well No. / Date	Groundwater Elevation (Feet MSL)	Metals Hexavalent Chromium (mg/L)	Total Chromium (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Volatile Organic Compounds Benzene (ug/L)	Toluene (ug/L)	Ethyl-Benzene (ug/L)	Total Xylenes (ug/L)	Trichloroethene (ug/L)
MW - 1D										
Jan-99	114.00	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1	1	ND < 1	2
Apr-99	114.01	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	ND < 1	ND < 2	2.1
Jul-99	113.67	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	ND < 1	ND < 2	2.7
Oct-99	106.55	0.014	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	ND < 1	ND < 1	2
Jan-00	152.60	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	ND < 1	ND < 1	7.1
Apr-00	108.84	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	1.7	ND < 1	ND < 1	3.3
Oct-00	108.98	ND < 0.020	ND < 0.010	ND < 0.0050	0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	3.1
Apr-01	109.03	0.00066	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	2.7
MW - 4A										
Jan-99	112.63	0.02	0.025	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1	ND < 1	ND < 1	10
Apr-99	112.58	ND < 0.02	0.012	ND < 0.005	ND < 0.025	ND < 1	ND < 1	2.9	1.7	7
Jul-99	112.46	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	670	67	5.2
Oct-99	104.64	0.017	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	ND < 1	ND < 2	4.5
Jan-00	152.46	ND < 0.02	0.015	ND < 0.005	ND < 0.025	ND < 1	ND < 1	ND < 1	ND < 1	4.2
Apr-00	107.30	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	ND < 1	ND < 1	8.6
Oct-00	107.48	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	7.4
Apr-01	107.62	0.0056	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	19
MW - 6D										
Jan-99	112.78	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	1.2	5.8	6.4	7.1
Apr-99	112.62	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	4	14	11.5	10
Jul-99	112.43	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	4.4	ND < 2	23
Oct-99	105.10	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	2.9	ND < 2	8.8
Jan-00	150.13	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	1.8	ND < 1	9.2
Apr-00	107.25	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	1	ND < 1	4.3
Oct-00	107.59	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	10
Apr-01	107.61	0.0026	ND < 0.010	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	10
MW -15D										
Jan-99	111.92	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.02	ND < 0.5	ND < 1	15	2.1	5.4
Apr-99	111.81	ND < 0.02	0.35	ND < 0.005	ND < 0.025	ND < 1	ND < 1	12	1.6	25
Jul-99	111.74	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	34	ND < 2	9
Oct-99	103.88	ND < 0.01	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	6	ND < 2	5.1
Jan-00	150.96	ND < 0.02	ND < 0.01	ND < 0.005	ND < 0.025	ND < 1	ND < 1	ND < 1	ND < 1	9.7
Apr-00	106.54	0.016	0.013	ND < 0.005	ND < 0.025	ND < 1	ND < 1	ND < 1	ND < 1	13
Oct-00	106.69	ND < 0.020	ND < 0.010	ND < 0.0050	ND < 0.025	1.8	ND < 1.0	2.9	ND < 1.0	8.7
Apr-01	106.83	0.014	0.025	ND < 0.0050	ND < 0.025	ND < 1.0	ND < 1.0	11	2.1	12

ND = Below detection limit as noted

MSL = Mean Sea Level

* 540/370 = original sample/duplicate sample (both results presented because duplicate result deviation is >20%)

P:\2279\2279-111\SPRDSHTS\02-04\[Apr02.xls]TAB5-1

Appendix C
Severn Trent Laboratories Analytical Reports

SEVERN TRENT SERVICES

LOT NUMBER E2G260291

Nonconformance 05-03596

Affected Samples:
E2G260291 (1): PTI-MW-09-054

Affected Methods:
7199

Case Narrative:
The sample was originally run within the holding time for Cr+6 by 7199. The sample was re-run on Monday 07/29/02 because the result did not compare with the ICP result. The re-run result does match the ICP result and will be reported. The first result on Friday 07/26/02 was due to a sample dilution problem.

SEVERN TRENT SERVICES

July 31, 2002

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705-4808

Tel: 714 258 8610
Fax: 714 258 0921
www.stl-inc.com

STL LOT NUMBER: E2G260291
NELAP Certification Number: 01118CA
PO/CONTRACT: 2279-11462-111.FLD

Sharon Wallin
Camp, Dresser, McKee
18881 Von Karman, Suite 650
Irvine, CA 92612

Dear Ms. Wallin,

This report contains the analytical results for the eight samples received under chain of custody by STL Los Angeles on July 26, 2002. These samples are associated with your PTI - Santa Fe Springs project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page. See Project Receipt Checklist for container temperature and conditions. Temperature reading between 2 to 6 degrees Celsius is considered within acceptable criteria. Any matrix related anomaly is footnoted within the report.

STL Los Angeles certifies that the tests performed at our facility meet all NELAP requirements for parameters for which accreditation is required or available. The case narrative is an integral part of the report. This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions, please feel free to call me at (714) 258-8610 extension 309.

Sincerely,

Diane Suzuki
Project Manager

CC: Project File

Page 1 of 000058 total pages in this report.

SEVERN TRENT SERVICES

LOT NUMBER E2G260291

Nonconformance 05-03596

Affected Samples:
E2G260291 (1): PTI-MW-09-054

Affected Methods:
7199

Case Narrative:
The sample was originally run within the holding time for Cr+6 by 7199. The sample was re-run on Monday 07/29/02 because the result did not compare with the ICP result. The re-run result does match the ICP result and will be reported. The first result on Friday 07/26/02 was due to a sample dilution problem.

STL LOS ANGELES

PROJECT RECEIPT CHECKLIST

Date: 7.26.02

Quantims Lot #: E2G 260281

Quote #: ____

Client Name: CDM

Project: PMI ABROTECH

Received by: MLT

Date/Time Received: 7.26.02 13.30

Delivered by : [X] Client [ ] Airborne [ ] Fed Ex [ ] DHL [ ] In-House Courier [ ] Rey B. [ ] UPS [ ] DES [ ] Other ____

Initial / Date

Custody Seal Status: [ ] Intact [ ] Broken [X] None .... MLT 7.26.02

Custody Seal #(s): ____ [ ] No Seal # ....

Sample Container(s): [X] STL-LA [ ] Client [ ] N/A ....

Temperature(s) (Cooler/blank) in °C: 5.5 Correction factor -0.2°C (Corrected Temp.) 5.3°C

Thermometer Used : ID: B [X] IR (Infra-red) [ ] Digital (Probe) ....

Samples: [X] Intact [ ] Broken [ ] Other ____ ....

Anomalies: [X] No [ ] Yes (See Clouseau) ....

Labeled by ....

Labeling checked by ....

Turn Around Time: [ ] RUSH-24HR [ ] RUSH-48HR [ ] RUSH-72HR [X] NORMAL ....

Short-Hold Notification: [X] Ph [X] Wet Chem [ ] Metals (Filter/Pres) [ ] Encore [ ] N/A ...

Outside Analysis(es) (Test/Lab/Date Sent Out) :

****** LEAVE NO BLANK SPACES ; USE N/A ******

Fraction	1->7	8-TB									PH
VOAh /*	3	6									N/A
125ml PB	1										—
250ml PB	1										—
500ml PB n	1										<2

h:HCl; na:Sodium Hydoxide; znna:Zinc Acetate/Sodium Hydroxide; s: H2SO4; n:HNO3; n/f:HNO3-Field filtered; n/f/l:HNO3-Lab filtered

CGJ:Clear Glass Jar; CGB:Clear Glass Bottle; AGJ:Amber Glass Jar; AGB:Amber Glass Bottle; PB: Poly Bottle; E:Encore Sampler; V:VOA; SL:Sleeve

* Number of VOA's w/ Headspace present

LOGGED BY/DATE: AB 07/28/02 REVIEWED BY/DATE: [signature] 7-29-02

PRC Ver. 6 081401 KRF

QANACA01\\N:\\Prece\\Sample Control Forms

SEVERN TRENT SERVICES

Analytical Report

EXECUTIVE SUMMARY - Detection Highlights

E2G260291

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
PTI-MW-09-054 07/26/02 08:10 001				
Chromium	9.1	0.010	mg/L	SW846 6010B
Chloroform	150	25	ug/L	SW846 8260B
1,1-Dichloroethane	320	25	ug/L	SW846 8260B
1,2-Dichloroethane	340	25	ug/L	SW846 8260B
1,1-Dichloroethene	89	25	ug/L	SW846 8260B
Methylene chloride	280	25	ug/L	SW846 8260B
Trichloroethene	480	25	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	10.0	1.0	mg/L	SW846 7199
pH	6.7	0.10	No Units	SW846 9040B
PTI-MW-39-054 07/26/02 07:30 002				
Chromium	9.3	0.010	mg/L	SW846 6010B
Chloroform	170	10	ug/L	SW846 8260B
1,1-Dichloroethane	360	10	ug/L	SW846 8260B
1,2-Dichloroethane	380	10	ug/L	SW846 8260B
1,1-Dichloroethene	130	10	ug/L	SW846 8260B
cis-1,2-Dichloroethene	13	10	ug/L	SW846 8260B
Methylene chloride	320	10	ug/L	SW846 8260B
Trichloroethene	570	10	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	10.2	1.0	mg/L	SW846 7199
pH	6.7	0.10	No Units	SW846 9040B
PTI-DI-054 07/26/02 08:50 003				
pH	5.0	0.10	No Units	SW846 9040B
PTI-MW-16-054 07/26/02 09:00 004				
1,1-Dichloroethane	220	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	35	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	22	5.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	27	5.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	5.5	5.0	ug/L	SW846 8260B
Trichloroethene	47	5.0	ug/L	SW846 8260B
pH	7.0	0.10	No Units	SW846 9040B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

E2G260291

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
PTI-EB-03-054 07/26/02 09:15 005				
pH	6.0	0.10	No Units	SW846 9040B
PTI-MW-07-054 07/26/02 10:40 006				
1,1-Dichloroethane	58	2.5	ug/L	SW846 8260B
1,2-Dichloroethane	15	2.5	ug/L	SW846 8260B
1,1-Dichloroethene	11	2.5	ug/L	SW846 8260B
cis-1,2-Dichloroethene	24	2.5	ug/L	SW846 8260B
trans-1,2-Dichloroethene	3.4	2.5	ug/L	SW846 8260B
Trichloroethene	100	2.5	ug/L	SW846 8260B
pH	6.9	0.10	No Units	SW846 9040B
PTI-MW-11-054 07/26/02 12:00 007				
1,1-Dichloroethane	410	50	ug/L	SW846 8260B
1,1-Dichloroethene	110	50	ug/L	SW846 8260B
cis-1,2-Dichloroethene	58	50	ug/L	SW846 8260B
Trichloroethene	1500	50	ug/L	SW846 8260B
pH	6.7	0.10	No Units	SW846 9040B

METHODS SUMMARY

E2G260291

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
pH Aqueous	SW846 9040B	SW846 9040B
Hexavalent Chromium	SW846 7199	SW846 7199
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3005A
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

E2G260291

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E5E11	001	PTI-MW-09-054	07/26/02	08:10
E5E2E	002	PTI-MW-39-054	07/26/02	07:30
E5E2K	003	PTI-DI-054	07/26/02	08:50
E5E2R	004	PTI-MW-16-054	07/26/02	09:00
E5E2V	005	PTI-EB-03-054	07/26/02	09:15
E5E2W	006	PTI-MW-07-054	07/26/02	10:40
E5E20	007	PTI-MW-11-054	07/26/02	12:00
E5E21	008	PTI-TB-03-054	07/26/02	12:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-09-054

GC/MS Volatiles

Lot-Sample #...: E2G260291-001 **Work Order #...:** E5E111AA **Matrix.........:** WATER
Date Sampled...: 07/26/02 08:10 **Date Received..:** 07/26/02 13:30 **MS Run #.......:** 2211120
Prep Date.......: 07/30/02 **Analysis Date..:** 07/30/02
Prep Batch #...: 2211338 **Analysis Time..:** 00:24
Method.........: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	25	ug/L	7.5
Bromodichloromethane	ND	25	ug/L	7.5
Bromoform	ND	25	ug/L	7.5
Bromomethane	ND	50	ug/L	25
Carbon tetrachloride	ND	25	ug/L	7.5
Chlorobenzene	ND	25	ug/L	7.5
Dibromochloromethane	ND	25	ug/L	10
Chloroethane	ND	50	ug/L	7.5
Chloroform	**150**	**25**	**ug/L**	**7.5**
Chloromethane	ND	50	ug/L	7.5
1,2-Dichlorobenzene	ND	25	ug/L	7.5
1,3-Dichlorobenzene	ND	25	ug/L	7.5
1,4-Dichlorobenzene	ND	25	ug/L	7.5
1,1-Dichloroethane	**320**	**25**	**ug/L**	**5.0**
1,2-Dichloroethane	**340**	**25**	**ug/L**	**10**
1,1-Dichloroethene	**89**	**25**	**ug/L**	**7.5**
cis-1,2-Dichloroethene	ND	25	ug/L	7.5
trans-1,2-Dichloroethene	ND	25	ug/L	7.5
1,2-Dichloropropane	ND	25	ug/L	7.5
cis-1,3-Dichloropropene	ND	25	ug/L	7.5
trans-1,3-Dichloropropene	ND	25	ug/L	12
Ethylbenzene	ND	25	ug/L	5.0
Methylene chloride	**280**	**25**	**ug/L**	**7.5**
1,1,2,2-Tetrachloroethane	ND	25	ug/L	10
Tetrachloroethene	ND	25	ug/L	7.5
Toluene	ND	25	ug/L	7.5
1,1,1-Trichloroethane	ND	25	ug/L	5.0
1,1,2-Trichloroethane	ND	25	ug/L	7.5
Trichloroethene	**480**	**25**	**ug/L**	**7.5**
Trichlorofluoromethane	ND	50	ug/L	7.5
Vinyl chloride	ND	50	ug/L	7.5
m-Xylene & p-Xylene	ND	25	ug/L	12
o-Xylene	ND	25	ug/L	5.0

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	88	(75 - 130)
1,2-Dichloroethane-d4	108	(65 - 135)
Toluene-d8	97	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-09-054

TOTAL Metals

Lot-Sample #...: E2G260291-001 **Matrix.......:** WATER
Date Sampled...: 07/26/02 08:10 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207517						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26-07/27/02	E5E111AC
		Analysis Time..: 20:05		MS Run #.......: 2207214	MDL...........: 0.00060	
Chromium	**9.1**	**0.010**	**mg/L**	**SW846 6010B**	**07/26-07/27/02**	**E5E111AD**
		Analysis Time..: 20:05		MS Run #.......: 2207214	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26-07/27/02	E5E111AE
		Analysis Time..: 20:05		MS Run #.......: 2207214	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-09-054

General Chemistry

Lot-Sample #...: E2G260291-001 Work Order #...: E5E11 Matrix.........: WATER
Date Sampled...: 07/26/02 08:10 Date Received..: 07/26/02 13:30

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	6.7	0.10	No Units	SW846 9040B	07/26/02	2207544
		Analysis Time..: 16:34		MS Run #.......: 2207225	MDL...........: 0.10	
Dissolved Hexavalent Chromium	10.0	1.0	mg/L	SW846 7199	07/29/02	2211408
		Analysis Time..: 17:41		MS Run #.......: 2211153	MDL...........: 0.30	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-39-054

GC/MS Volatiles

Lot-Sample #...: E2G260291-002 **Work Order #...:** E5E2E1AA **Matrix.........:** WATER
Date Sampled...: 07/26/02 07:30 **Date Received..:** 07/26/02 13:30 **MS Run #.......:** 2209021
Prep Date......: 07/28/02 **Analysis Date..:** 07/28/02
Prep Batch #...: 2210520 **Analysis Time..:** 19:14
Method.........: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	10	ug/L	3.0
Bromodichloromethane	ND	10	ug/L	3.0
Bromoform	ND	10	ug/L	3.0
Bromomethane	ND	20	ug/L	10
Carbon tetrachloride	ND	10	ug/L	3.0
Chlorobenzene	ND	10	ug/L	3.0
Dibromochloromethane	ND	10	ug/L	4.0
Chloroethane	ND	20	ug/L	3.0
Chloroform	**170**	**10**	**ug/L**	**3.0**
Chloromethane	ND	20	ug/L	3.0
1,2-Dichlorobenzene	ND	10	ug/L	3.0
1,3-Dichlorobenzene	ND	10	ug/L	3.0
1,4-Dichlorobenzene	ND	10	ug/L	3.0
1,1-Dichloroethane	**360**	**10**	**ug/L**	**2.0**
1,2-Dichloroethane	**380**	**10**	**ug/L**	**4.0**
1,1-Dichloroethene	**130**	**10**	**ug/L**	**3.0**
cis-1,2-Dichloroethene	**13**	**10**	**ug/L**	**3.0**
trans-1,2-Dichloroethene	ND	10	ug/L	3.0
1,2-Dichloropropane	ND	10	ug/L	3.0
cis-1,3-Dichloropropene	ND	10	ug/L	3.0
trans-1,3-Dichloropropene	ND	10	ug/L	5.0
Ethylbenzene	ND	10	ug/L	2.0
Methylene chloride	**320**	**10**	**ug/L**	**3.0**
1,1,2,2-Tetrachloroethane	ND	10	ug/L	4.0
Tetrachloroethene	ND	10	ug/L	3.0
Toluene	ND	10	ug/L	3.0
1,1,1-Trichloroethane	ND	10	ug/L	2.0
1,1,2-Trichloroethane	ND	10	ug/L	3.0
Trichloroethene	**570**	**10**	**ug/L**	**3.0**
Trichlorofluoromethane	ND	20	ug/L	3.0
Vinyl chloride	ND	20	ug/L	3.0
m-Xylene & p-Xylene	ND	10	ug/L	5.0
o-Xylene	ND	10	ug/L	2.0

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	90	(75 - 130)
1,2-Dichloroethane-d4	115	(65 - 135)
Toluene-d8	98	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-39-054

TOTAL Metals

Lot-Sample #...: E2G260291-002 **Matrix.......:** WATER
Date Sampled...: 07/26/02 07:30 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207517						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26-07/27/02	E5E2E1AC
		Analysis Time..: 20:35		MS Run #.......: 2207214	MDL...........: 0.00060	
Chromium	**9.3**	**0.010**	**mg/L**	**SW846 6010B**	**07/26-07/27/02**	**E5E2E1AD**
		Analysis Time..: 20:35		MS Run #.......: 2207214	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26-07/27/02	E5E2E1AE
		Analysis Time..: 20:35		MS Run #.......: 2207214	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-39-054

General Chemistry

Lot-Sample #...: E2G260291-002 Work Order #...: E5E2E Matrix.........: WATER
Date Sampled...: 07/26/02 07:30 Date Received..: 07/26/02 13:30

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	6.7	0.10	No Units	SW846 9040B	07/26/02	2207544
	Analysis Time..: 16:40			MS Run #.......: 2207225	MDL............: 0.10	
Dissolved Hexavalent Chromium	10.2	1.0	mg/L	SW846 7199	07/26/02	2207558
	Analysis Time..: 18:23			MS Run #.......: 2207237	MDL............: 0.30	

PHIBRO-TECH, INC.

Client Sample ID: PTI-DI-054

GC/MS Volatiles

Lot-Sample #...: E2G260291-003 **Work Order #...:** E5E2K1AA **Matrix.........:** WATER
Date Sampled...: 07/26/02 08:50 **Date Received..:** 07/26/02 13:30 **MS Run #.......:** 2209021
Prep Date.......: 07/28/02 **Analysis Date..:** 07/28/02
Prep Batch #...: 2210520 **Analysis Time..:** 19:38
Method.........: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	93	(75 - 130)
1,2-Dichloroethane-d4	121	(65 - 135)
Toluene-d8	101	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-DI-054

TOTAL Metals

Lot-Sample #...: E2G260291-003 **Matrix.......:** WATER
Date Sampled...: 07/26/02 08:50 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207517						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26-07/27/02	E5E2K1AC
		Analysis Time..: 20:43		MS Run #.......: 2207214	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/26-07/27/02	E5E2K1AD
		Analysis Time..: 20:43		MS Run #.......: 2207214	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26-07/27/02	E5E2K1AE
		Analysis Time..: 20:43		MS Run #.......: 2207214	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-DI-054

General Chemistry

Lot-Sample #...: E2G260291-003 **Work Order #...:** E5E2K **Matrix.........:** WATER
Date Sampled...: 07/26/02 08:50 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	**5.0**	**0.10**	**No Units**	**SW846 9040B**	**07/26/02**	**2207544**
		Analysis Time..: 16:43		MS Run #.......: 2207225	MDL............: 0.10	
Dissolved Hexavalent Chromium	ND	0.0010	mg/L	SW846 7199	07/26/02	2207558
		Analysis Time..: 15:05		MS Run #.......: 2207237	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-16-054

GC/MS Volatiles

Lot-Sample #...:	E2G260291-004	**Work Order #...:**	E5E2R1AA	**Matrix.........:**	WATER
Date Sampled...:	07/26/02 09:00	**Date Received..:**	07/26/02 13:30	**MS Run #.......:**	2209021
Prep Date......:	07/28/02	**Analysis Date..:**	07/28/02		
Prep Batch #...:	2210520	**Analysis Time..:**	20:49		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	5.0	ug/L	1.5
Bromodichloromethane	ND	5.0	ug/L	1.5
Bromoform	ND	5.0	ug/L	1.5
Bromomethane	ND	10	ug/L	5.0
Carbon tetrachloride	ND	5.0	ug/L	1.5
Chlorobenzene	ND	5.0	ug/L	1.5
Dibromochloromethane	ND	5.0	ug/L	2.0
Chloroethane	ND	10	ug/L	1.5
Chloroform	ND	5.0	ug/L	1.5
Chloromethane	ND	10	ug/L	1.5
1,2-Dichlorobenzene	ND	5.0	ug/L	1.5
1,3-Dichlorobenzene	ND	5.0	ug/L	1.5
1,4-Dichlorobenzene	ND	5.0	ug/L	1.5
1,1-Dichloroethane	**220**	**5.0**	**ug/L**	**1.0**
1,2-Dichloroethane	**35**	**5.0**	**ug/L**	**2.0**
1,1-Dichloroethene	**22**	**5.0**	**ug/L**	**1.5**
cis-1,2-Dichloroethene	**27**	**5.0**	**ug/L**	**1.5**
trans-1,2-Dichloroethene	**5.5**	**5.0**	**ug/L**	**1.5**
1,2-Dichloropropane	ND	5.0	ug/L	1.5
cis-1,3-Dichloropropene	ND	5.0	ug/L	1.5
trans-1,3-Dichloropropene	ND	5.0	ug/L	2.5
Ethylbenzene	ND	5.0	ug/L	1.0
Methylene chloride	ND	5.0	ug/L	1.5
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	2.0
Tetrachloroethene	ND	5.0	ug/L	1.5
Toluene	ND	5.0	ug/L	1.5
1,1,1-Trichloroethane	ND	5.0	ug/L	1.0
1,1,2-Trichloroethane	ND	5.0	ug/L	1.5
Trichloroethene	**47**	**5.0**	**ug/L**	**1.5**
Trichlorofluoromethane	ND	10	ug/L	1.5
Vinyl chloride	ND	10	ug/L	1.5
m-Xylene & p-Xylene	ND	5.0	ug/L	2.5
o-Xylene	ND	5.0	ug/L	1.0

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	89	(75 - 130)
1,2-Dichloroethane-d4	116	(65 - 135)
Toluene-d8	98	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-16-054

TOTAL Metals

Lot-Sample #...: E2G260291-004 **Matrix.......:** WATER
Date Sampled...: 07/26/02 09:00 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207517						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26-07/27/02	E5E2R1AC
		Analysis Time..: 20:49		MS Run #.......: 2207214	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/26-07/27/02	E5E2R1AD
		Analysis Time..: 20:49		MS Run #.......: 2207214	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26-07/27/02	E5E2R1AE
		Analysis Time..: 20:49		MS Run #.......: 2207214	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-16-054

General Chemistry

Lot-Sample #...: E2G260291-004 **Work Order #...:** E5E2R **Matrix.........:** WATER
Date Sampled...: 07/26/02 09:00 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	**7.0**	**0.10**	**No Units**	**SW846 9040B**	**07/26/02**	**2207544**
	Analysis Time..: 16:46			MS Run #.......: 2207225	MDL............: 0.10	
Dissolved Hexavalent Chromium	ND	0.0010	mg/L	SW846 7199	07/26/02	2207558
	Analysis Time..: 15:24			MS Run #.......: 2207237	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-EB-03-054

GC/MS Volatiles

Lot-Sample #...:	E2G260291-005	Work Order #...:	E5E2V1AA	Matrix.........:	WATER
Date Sampled...:	07/26/02 09:15	Date Received..:	07/26/02 13:30	MS Run #........:	2209021
Prep Date......:	07/28/02	Analysis Date..:	07/28/02		
Prep Batch #...:	2210520	Analysis Time..:	12:10		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	89	(75 - 130)
1,2-Dichloroethane-d4	105	(65 - 135)
Toluene-d8	101	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-EB-03-054

TOTAL Metals

Lot-Sample #...: E2G260291-005 **Matrix.......:** WATER
Date Sampled...: 07/26/02 09:15 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207517						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26-07/27/02	E5E2V1AC
		Analysis Time..: 20:57		MS Run #.......: 2207214	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/26-07/27/02	E5E2V1AD
		Analysis Time..: 20:57		MS Run #.......: 2207214	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26-07/27/02	E5E2V1AE
		Analysis Time..: 20:57		MS Run #.......: 2207214	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-EB-03-054

General Chemistry

Lot-Sample #...: E2G260291-005 **Work Order #...:** E5E2V **Matrix.........:** WATER
Date Sampled...: 07/26/02 09:15 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	**6.0**	**0.10**	**No Units**	**SW846 9040B**	**07/26/02**	**2207544**
	Analysis Time..: 16:49			MS Run #.......: 2207225	MDL............: 0.10	
Dissolved Hexavalent Chromium	ND	0.0010	mg/L	SW846 7199	07/26/02	2207558
	Analysis Time..: 15:42			MS Run #.......: 2207237	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-07-054

GC/MS Volatiles

Lot-Sample #...:	E2G260291-006	**Work Order #...:**	E5E2W1AA	**Matrix.........:**	WATER
Date Sampled...:	07/26/02 10:40	**Date Received..:**	07/26/02 13:30	**MS Run #.......:**	2209021
Prep Date......:	07/28/02	**Analysis Date..:**	07/28/02		
Prep Batch #...:	2210520	**Analysis Time..:**	21:12		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	2.5	ug/L	0.75
Bromodichloromethane	ND	2.5	ug/L	0.75
Bromoform	ND	2.5	ug/L	0.75
Bromomethane	ND	5.0	ug/L	2.5
Carbon tetrachloride	ND	2.5	ug/L	0.75
Chlorobenzene	ND	2.5	ug/L	0.75
Dibromochloromethane	ND	2.5	ug/L	1.0
Chloroethane	ND	5.0	ug/L	0.75
Chloroform	ND	2.5	ug/L	0.75
Chloromethane	ND	5.0	ug/L	0.75
1,2-Dichlorobenzene	ND	2.5	ug/L	0.75
1,3-Dichlorobenzene	ND	2.5	ug/L	0.75
1,4-Dichlorobenzene	ND	2.5	ug/L	0.75
1,1-Dichloroethane	**58**	**2.5**	**ug/L**	**0.50**
1,2-Dichloroethane	**15**	**2.5**	**ug/L**	**1.0**
1,1-Dichloroethene	**11**	**2.5**	**ug/L**	**0.75**
cis-1,2-Dichloroethene	**24**	**2.5**	**ug/L**	**0.75**
trans-1,2-Dichloroethene	**3.4**	**2.5**	**ug/L**	**0.75**
1,2-Dichloropropane	ND	2.5	ug/L	0.75
cis-1,3-Dichloropropene	ND	2.5	ug/L	0.75
trans-1,3-Dichloropropene	ND	2.5	ug/L	1.2
Ethylbenzene	ND	2.5	ug/L	0.50
Methylene chloride	ND	2.5	ug/L	0.75
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	1.0
Tetrachloroethene	ND	2.5	ug/L	0.75
Toluene	ND	2.5	ug/L	0.75
1,1,1-Trichloroethane	ND	2.5	ug/L	0.50
1,1,2-Trichloroethane	ND	2.5	ug/L	0.75
Trichloroethene	**100**	**2.5**	**ug/L**	**0.75**
Trichlorofluoromethane	ND	5.0	ug/L	0.75
Vinyl chloride	ND	5.0	ug/L	0.75
m-Xylene & p-Xylene	ND	2.5	ug/L	1.2
o-Xylene	ND	2.5	ug/L	0.50

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	90	(75 - 130)
1,2-Dichloroethane-d4	111	(65 - 135)
Toluene-d8	95	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-07-054

TOTAL Metals

Lot-Sample #...: E2G260291-006 **Matrix.......:** WATER
Date Sampled...: 07/26/02 10:40 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207517						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26-07/27/02	E5E2W1AC
		Analysis Time..: 21:17		MS Run #.......: 2207214	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/26-07/27/02	E5E2W1AD
		Analysis Time..: 21:17		MS Run #.......: 2207214	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26-07/27/02	E5E2W1AE
		Analysis Time..: 21:17		MS Run #.......: 2207214	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-07-054

General Chemistry

Lot-Sample #...: E2G260291-006 **Work Order #...:** E5E2W **Matrix.........:** WATER
Date Sampled...: 07/26/02 10:40 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	**6.9**	**0.10**	**No Units**	**SW846 9040B**	**07/26/02**	**2207544**
	Analysis Time..: 16:52		MS Run #.......: 2207225		MDL...........: 0.10	
Dissolved Hexavalent Chromium	ND	0.0010	mg/L	SW846 7199	07/26/02	2207558
	Analysis Time..: 16:01		MS Run #.......: 2207237		MDL...........: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-11-054

GC/MS Volatiles

Lot-Sample #...: E2G260291-007 **Work Order #...:** E5E201AA **Matrix.........:** WATER
Date Sampled...: 07/26/02 12:00 **Date Received..:** 07/26/02 13:30 **MS Run #.......:** 2211120
Prep Date.......: 07/30/02 **Analysis Date..:** 07/30/02
Prep Batch #...: 2211338 **Analysis Time..:** 00:48
Method.........: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	50	ug/L	15
Bromodichloromethane	ND	50	ug/L	15
Bromoform	ND	50	ug/L	15
Bromomethane	ND	100	ug/L	50
Carbon tetrachloride	ND	50	ug/L	15
Chlorobenzene	ND	50	ug/L	15
Dibromochloromethane	ND	50	ug/L	20
Chloroethane	ND	100	ug/L	15
Chloroform	ND	50	ug/L	15
Chloromethane	ND	100	ug/L	15
1,2-Dichlorobenzene	ND	50	ug/L	15
1,3-Dichlorobenzene	ND	50	ug/L	15
1,4-Dichlorobenzene	ND	50	ug/L	15
1,1-Dichloroethane	**410**	**50**	**ug/L**	**10**
1,2-Dichloroethane	ND	50	ug/L	20
1,1-Dichloroethene	**110**	**50**	**ug/L**	**15**
cis-1,2-Dichloroethene	**58**	**50**	**ug/L**	**15**
trans-1,2-Dichloroethene	ND	50	ug/L	15
1,2-Dichloropropane	ND	50	ug/L	15
cis-1,3-Dichloropropene	ND	50	ug/L	15
trans-1,3-Dichloropropene	ND	50	ug/L	25
Ethylbenzene	ND	50	ug/L	10
Methylene chloride	ND	50	ug/L	15
1,1,2,2-Tetrachloroethane	ND	50	ug/L	20
Tetrachloroethene	ND	50	ug/L	15
Toluene	ND	50	ug/L	15
1,1,1-Trichloroethane	ND	50	ug/L	10
1,1,2-Trichloroethane	ND	50	ug/L	15
Trichloroethene	**1500**	**50**	**ug/L**	**15**
Trichlorofluoromethane	ND	100	ug/L	15
Vinyl chloride	ND	100	ug/L	15
m-Xylene & p-Xylene	ND	50	ug/L	25
o-Xylene	ND	50	ug/L	10

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	89	(75 - 130)
1,2-Dichloroethane-d4	105	(65 - 135)
Toluene-d8	99	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-11-054

TOTAL Metals

Lot-Sample #...: E2G260291-007 **Matrix.......:** WATER
Date Sampled...: 07/26/02 12:00 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207517						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26-07/27/02	E5E201AC
		Analysis Time..: 21:25		MS Run #.......: 2207214	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/26-07/27/02	E5E201AD
		Analysis Time..: 21:25		MS Run #.......: 2207214	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26-07/27/02	E5E201AE
		Analysis Time..: 21:25		MS Run #.......: 2207214	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-11-054

General Chemistry

Lot-Sample #...: E2G260291-007 **Work Order #...:** E5E20 **Matrix.........:** WATER
Date Sampled...: 07/26/02 12:00 **Date Received..:** 07/26/02 13:30

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	**6.7**	**0.10**	**No Units**	**SW846 9040B**	**07/26/02**	**2207544**
	Analysis Time..: 16:55			MS Run #.......: 2207225	MDL............: 0.10	
Dissolved Hexavalent Chromium	ND	0.0010	mg/L	SW846 7199	07/26/02	2207558
	Analysis Time..: 16:20			MS Run #.......: 2207237	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-TB-03-054

GC/MS Volatiles

Lot-Sample #...:	E2G260291-008	**Work Order #...:**	E5E211AA	**Matrix.........:**	WATER
Date Sampled...:	07/26/02 12:00	**Date Received..:**	07/26/02 13:30	**MS Run #.......:**	2209021
Prep Date......:	07/28/02	**Analysis Date..:**	07/28/02		
Prep Batch #...:	2210520	**Analysis Time..:**	12:34		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	89	(75 - 130)
1,2-Dichloroethane-d4	107	(65 - 135)
Toluene-d8	98	(80 - 130)

SEVERN
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QA/QC

QC DATA ASSOCIATION SUMMARY

E2G260291

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 9040B		2207544	2207225
	WATER	SW846 8260B		2211338	2211120
	WATER	SW846 6010B		2207517	2207214
	WATER	SW846 7199		2211408	2211153
002	WATER	SW846 9040B		2207544	2207225
	WATER	SW846 8260B		2210520	2209021
	WATER	SW846 6010B		2207517	2207214
	WATER	SW846 7199		2207558	2207237
003	WATER	SW846 9040B		2207544	2207225
	WATER	SW846 8260B		2210520	2209021
	WATER	SW846 6010B		2207517	2207214
	WATER	SW846 7199		2207558	2207237
004	WATER	SW846 9040B		2207544	2207225
	WATER	SW846 8260B		2210520	2209021
	WATER	SW846 6010B		2207517	2207214
	WATER	SW846 7199		2207558	2207237
005	WATER	SW846 9040B		2207544	2207225
	WATER	SW846 8260B		2210520	2209021
	WATER	SW846 6010B		2207517	2207214
	WATER	SW846 7199		2207558	2207237
006	WATER	SW846 9040B		2207544	2207225
	WATER	SW846 8260B		2210520	2209021
	WATER	SW846 6010B		2207517	2207214
	WATER	SW846 7199		2207558	2207237
007	WATER	SW846 9040B		2207544	2207225
	WATER	SW846 8260B		2211338	2211120
	WATER	SW846 6010B		2207517	2207214
	WATER	SW846 7199		2207558	2207237
008	WATER	SW846 8260B		2210520	2209021

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E2G260291 **Work Order #...:** E5JFG1AA **Matrix.........:** WATER
MB Lot-Sample #: E2G290000-520
Prep Date......: 07/28/02 **Analysis Time..:** 11:40
Analysis Date..: 07/28/02 **Prep Batch #...:** 2210520

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	2.0	ug/L	SW846 8260B
Vinyl chloride	ND	2.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	91	(75 - 130)
1,2-Dichloroethane-d4	108	(65 - 135)
Toluene-d8	99	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E2G260291 **Work Order #...:** E5KTQ1AA **Matrix.........:** WATER
MB Lot-Sample #: E2G300000-338
Prep Date......: 07/29/02 **Analysis Time..:** 20:43
Analysis Date..: 07/29/02 **Prep Batch #...:** 2211338

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	2.0	ug/L	SW846 8260B
Vinyl chloride	ND	2.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	84	(75 - 130)
1,2-Dichloroethane-d4	94	(65 - 135)
Toluene-d8	91	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: E2G260291 **Matrix.........:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: E2G260000-517 **Prep Batch #...:** 2207517						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26-07/27/02	E5FE51AA
		Analysis Time..: 19:52				
Chromium	ND	0.010	mg/L	SW846 6010B	07/26-07/27/02	E5FE51AC
		Analysis Time..: 19:52				
Copper	ND	0.025	mg/L	SW846 6010B	07/26-07/27/02	E5FE51AD
		Analysis Time..: 19:52				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: E2G260291 **Matrix.........:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: E5F1C1AA		MB Lot-Sample #:	E2G260000-558	
	ND	0.0010	mg/L	SW846 7199	07/26/02	2207558
		Analysis Time..: 14:55				
Dissolved Hexavalent Chromium		Work Order #: E5K8J1AA		MB Lot-Sample #:	E2G300000-408	
	ND	0.0010	mg/L	SW846 7199	07/29/02	2211408
		Analysis Time..: 17:32				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2G260291 **Work Order #...:** E5JFG1AC **Matrix.........:** WATER
LCS Lot-Sample#: E2G290000-520
Prep Date......: 07/28/02 **Analysis Date..:** 07/28/02
Prep Batch #...: 2210520 **Analysis Time..:** 10:46

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**114**	**(75 - 120)**	**SW846 8260B**
Chlorobenzene	**84**	**(75 - 120)**	**SW846 8260B**
1,1-Dichloroethene	**116**	**(70 - 140)**	**SW846 8260B**
Toluene	**89**	**(75 - 125)**	**SW846 8260B**
Trichloroethene	**110**	**(70 - 130)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	88	(75 - 130)
1,2-Dichloroethane-d4	118	(65 - 135)
Toluene-d8	93	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2G260291 **Work Order #...:** E5JFG1AC **Matrix.........:** WATER
LCS Lot-Sample#: E2G290000-520
Prep Date.......: 07/28/02 **Analysis Date..:** 07/28/02
Prep Batch #...: 2210520 **Analysis Time..:** 10:46

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	**10.0**	**11.4**	**ug/L**	**114**	**SW846 8260B**
Chlorobenzene	**10.0**	**8.45**	**ug/L**	**84**	**SW846 8260B**
1,1-Dichloroethene	**10.0**	**11.6**	**ug/L**	**116**	**SW846 8260B**
Toluene	**10.0**	**8.93**	**ug/L**	**89**	**SW846 8260B**
Trichloroethene	**10.0**	**11.0**	**ug/L**	**110**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	88	(75 - 130)
1,2-Dichloroethane-d4	118	(65 - 135)
Toluene-d8	93	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2G260291 **Work Order #...:** E5KTQ1AC **Matrix.........:** WATER
LCS Lot-Sample#: E2G300000-338
Prep Date......: 07/29/02 **Analysis Date..:** 07/29/02
Prep Batch #...: 2211338 **Analysis Time..:** 20:20

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**88**	**(75 - 120)**	**SW846 8260B**
Chlorobenzene	**89**	**(75 - 120)**	**SW846 8260B**
1,1-Dichloroethene	**86**	**(70 - 140)**	**SW846 8260B**
Toluene	**94**	**(75 - 125)**	**SW846 8260B**
Trichloroethene	**84**	**(70 - 130)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	98	(75 - 130)
1,2-Dichloroethane-d4	93	(65 - 135)
Toluene-d8	104	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2G260291 **Work Order #...:** E5KTQ1AC **Matrix.........:** WATER
LCS Lot-Sample#: E2G300000-338
Prep Date......: 07/29/02 **Analysis Date..:** 07/29/02
Prep Batch #...: 2211338 **Analysis Time..:** 20:20

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	**10.0**	**8.78**	**ug/L**	**88**	**SW846 8260B**
Chlorobenzene	**10.0**	**8.90**	**ug/L**	**89**	**SW846 8260B**
1,1-Dichloroethene	**10.0**	**8.59**	**ug/L**	**86**	**SW846 8260B**
Toluene	**10.0**	**9.40**	**ug/L**	**94**	**SW846 8260B**
Trichloroethene	**10.0**	**8.38**	**ug/L**	**84**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	98	(75 - 130)
1,2-Dichloroethane-d4	93	(65 - 135)
Toluene-d8	104	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: E2G260291 **Matrix.........:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: E2G260000-517 **Prep Batch #...:** 2207517					
Cadmium	95	(80 - 120)	SW846 6010B	07/26-07/27/02	E5FE51AE
		Analysis Time..: 19:57			
Chromium	95	(85 - 120)	SW846 6010B	07/26-07/27/02	E5FE51AF
		Analysis Time..: 19:57			
Copper	96	(80 - 120)	SW846 6010B	07/26-07/27/02	E5FE51AG
		Analysis Time..: 19:57			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E2G260291 **Matrix.........:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: E2G260000-517 **Prep Batch #...:** 2207517							
Cadmium	0.0500	0.0476	mg/L	95	SW846 6010B	07/26-07/27/02	E5FE51AE
			Analysis Time..: 19:57				
Chromium	0.200	0.189	mg/L	95	SW846 6010B	07/26-07/27/02	E5FE51AF
			Analysis Time..: 19:57				
Copper	0.250	0.241	mg/L	96	SW846 6010B	07/26-07/27/02	E5FE51AG
			Analysis Time..: 19:57				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G260291 **Matrix.........:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH		Work Order #: E5FNP1AA LCS Lot-Sample#: E2G260000-544			
	100	(90 - 110)	SW846 9040B	07/26/02	2207544
		Analysis Time..: 16:31			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E2G260291 **Matrix.........:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH			Work Order #: E5FNP1AA	LCS Lot-Sample#: E2G260000-544			
	9.18	9.17	No Units	100	SW846 9040B	07/26/02	2207544
			Analysis Time..: 16:31				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G260291 **Matrix.........:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: E5F1C1AC	LCS Lot-Sample#: E2G260000-558		
	108	(90 - 110)	SW846 7199	07/26/02	2207558
		Analysis Time..: 14:46			
Dissolved Hexavalent Chromium		Work Order #: E5K8J1AC	LCS Lot-Sample#: E2G300000-408		
	109	(90 - 110)	SW846 7199	07/29/02	2211408
		Analysis Time..: 17:22			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E2G260291 **Matrix.........:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #: E5F1C1AC		LCS Lot-Sample#: E2G260000-558		
	0.0200	0.0216	mg/L	108	SW846 7199	07/26/02	2207558
			Analysis Time..: 14:46				
Dissolved Hexavalent Chromium			Work Order #: E5K8J1AC		LCS Lot-Sample#: E2G300000-408		
	0.0200	0.0218	mg/L	109	SW846 7199	07/29/02	2211408
			Analysis Time..: 17:22				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2G260291 **Work Order #...:** E5DWC1C4-MS **Matrix.........:** WATER
MS Lot-Sample #: E2G260154-002 E5DWC1C5-MSD
Date Sampled...: 07/25/02 10:00 **Date Received..:** 07/25/02 20:40 **MS Run #.......:** 2209021
Prep Date......: 07/27/02 **Analysis Date..:** 07/27/02
Prep Batch #...: 2209125 **Analysis Time..:** 18:46

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**108**	**(75 - 120)**			**SW846 8260B**
	111	**(75 - 120)**	**2.9**	**(0-25)**	**SW846 8260B**
Chlorobenzene	**91**	**(75 - 120)**			**SW846 8260B**
	92	**(75 - 120)**	**1.6**	**(0-25)**	**SW846 8260B**
1,1-Dichloroethene	**106**	**(70 - 140)**			**SW846 8260B**
	109	**(70 - 140)**	**2.9**	**(0-25)**	**SW846 8260B**
Toluene	**95**	**(75 - 125)**			**SW846 8260B**
	96	**(75 - 125)**	**1.2**	**(0-25)**	**SW846 8260B**
Trichloroethene	**102**	**(70 - 130)**			**SW846 8260B**
	105	**(70 - 130)**	**2.8**	**(0-25)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	97	(75 - 130)
	99	(75 - 130)
1,2-Dichloroethane-d4	116	(65 - 135)
	118	(65 - 135)
Toluene-d8	101	(80 - 130)
	101	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2G260291 **Work Order #...:** E5DWC1C4-MS **Matrix.........:** WATER
MS Lot-Sample #: E2G260154-002 E5DWC1C5-MSD
Date Sampled...: 07/25/02 10:00 **Date Received..:** 07/25/02 20:40 **MS Run #.......:** 2209021
Prep Date......: 07/27/02 **Analysis Date..:** 07/27/02
Prep Batch #...: 2209125 **Analysis Time..:** 18:46

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	**ND**	**1250**	**1350**	**ug/L**	**108**		**SW846 8260B**
	ND	**1250**	**1390**	**ug/L**	**111**	**2.9**	**SW846 8260B**
Chlorobenzene	**ND**	**1250**	**1140**	**ug/L**	**91**		**SW846 8260B**
	ND	**1250**	**1160**	**ug/L**	**92**	**1.6**	**SW846 8260B**
1,1-Dichloroethene	**ND**	**1250**	**1320**	**ug/L**	**106**		**SW846 8260B**
	ND	**1250**	**1360**	**ug/L**	**109**	**2.9**	**SW846 8260B**
Toluene	**ND**	**1250**	**1190**	**ug/L**	**95**		**SW846 8260B**
	ND	**1250**	**1200**	**ug/L**	**96**	**1.2**	**SW846 8260B**
Trichloroethene	**ND**	**1250**	**1360**	**ug/L**	**102**		**SW846 8260B**
	ND	**1250**	**1400**	**ug/L**	**105**	**2.8**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	97	(75 - 130)
	99	(75 - 130)
1,2-Dichloroethane-d4	116	(65 - 135)
	118	(65 - 135)
Toluene-d8	101	(80 - 130)
	101	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2G260291 **Work Order #...:** E5JRX1AC-MS **Matrix.........:** WATER
MS Lot-Sample #: E2G260261-004 E5JRX1AD-MSD
Date Sampled...: 07/25/02 09:40 **Date Received..:** 07/27/02 10:20 **MS Run #.......:** 2211120
Prep Date......: 07/30/02 **Analysis Date..:** 07/30/02
Prep Batch #...: 2211338 **Analysis Time..:** 01:11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**96**	**(75 - 120)**			**SW846 8260B**
	94	**(75 - 120)**	**1.7**	**(0-25)**	**SW846 8260B**
Chlorobenzene	**94**	**(75 - 120)**			**SW846 8260B**
	93	**(75 - 120)**	**1.2**	**(0-25)**	**SW846 8260B**
1,1-Dichloroethene	**95**	**(70 - 140)**			**SW846 8260B**
	90	**(70 - 140)**	**5.0**	**(0-25)**	**SW846 8260B**
Toluene	**99**	**(75 - 125)**			**SW846 8260B**
	99	**(75 - 125)**	**0.10**	**(0-25)**	**SW846 8260B**
Trichloroethene	**92**	**(70 - 130)**			**SW846 8260B**
	89	**(70 - 130)**	**3.4**	**(0-25)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	103	(75 - 130)
	102	(75 - 130)
1,2-Dichloroethane-d4	105	(65 - 135)
	103	(65 - 135)
Toluene-d8	107	(80 - 130)
	107	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2G260291 **Work Order #...:** E5JRX1AC-MS **Matrix.........:** WATER
MS Lot-Sample #: E2G260261-004 E5JRX1AD-MSD
Date Sampled...: 07/25/02 09:40 **Date Received..:** 07/27/02 10:20 **MS Run #.......:** 2211120
Prep Date......: 07/30/02 **Analysis Date..:** 07/30/02
Prep Batch #...: 2211338 **Analysis Time..:** 01:11

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	**ND**	**10.0**	**9.58**	**ug/L**	**96**		**SW846 8260B**
	ND	**10.0**	**9.42**	**ug/L**	**94**	**1.7**	**SW846 8260B**
Chlorobenzene	**ND**	**10.0**	**9.41**	**ug/L**	**94**		**SW846 8260B**
	ND	**10.0**	**9.30**	**ug/L**	**93**	**1.2**	**SW846 8260B**
1,1-Dichloroethene	**ND**	**10.0**	**9.50**	**ug/L**	**95**		**SW846 8260B**
	ND	**10.0**	**9.04**	**ug/L**	**90**	**5.0**	**SW846 8260B**
Toluene	**ND**	**10.0**	**9.90**	**ug/L**	**99**		**SW846 8260B**
	ND	**10.0**	**9.89**	**ug/L**	**99**	**0.10**	**SW846 8260B**
Trichloroethene	**ND**	**10.0**	**9.23**	**ug/L**	**92**		**SW846 8260B**
	ND	**10.0**	**8.92**	**ug/L**	**89**	**3.4**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	103	(75 - 130)
	102	(75 - 130)
1,2-Dichloroethane-d4	105	(65 - 135)
	103	(65 - 135)
Toluene-d8	107	(80 - 130)
	107	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: E2G260291 **Matrix.........:** WATER
Date Sampled...: 07/26/02 08:10 **Date Received..:** 07/26/02 13:30

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: E2G260291-001 **Prep Batch #...:** 2207517							
Cadmium	93	(80 - 120)			SW846 6010B	07/26-07/27/02	E5E111AH
	95	(80 - 120)	1.8	(0-20)	SW846 6010B	07/26-07/27/02	E5E111AJ
		Analysis Time..: 20:19					
		MS Run #.......: 2207214					
Chromium	NC	(85 - 120)			SW846 6010B	07/26-07/27/02	E5E111AK
	NC	(85 - 120)		(0-20)	SW846 6010B	07/26-07/27/02	E5E111AL
		Analysis Time..: 20:19					
		MS Run #.......: 2207214					
Copper	103	(80 - 120)			SW846 6010B	07/26-07/27/02	E5E111AM
	101	(80 - 120)	1.5	(0-20)	SW846 6010B	07/26-07/27/02	E5E111AN
		Analysis Time..: 20:19					
		MS Run #.......: 2207214					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E2G260291 **Matrix.........:** WATER
Date Sampled...: 07/26/02 08:10 **Date Received..:** 07/26/02 13:30

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: E2G260291-001 **Prep Batch #...:** 2207517									
Cadmium									
	ND	0.0500	0.0472	mg/L	93		SW846 6010B	07/26-07/27/02	E5E111AH
	ND	0.0500	0.0480	mg/L	95	1.8	SW846 6010B	07/26-07/27/02	E5E111AJ
			Analysis Time..: 20:19						
			MS Run #.......: 2207214						
Chromium									
	9.1	0.200	9.55 NC	mg/L			SW846 6010B	07/26-07/27/02	E5E111AK
	9.1	0.200	9.42 NC	mg/L			SW846 6010B	07/26-07/27/02	E5E111AL
			Analysis Time..: 20:19						
			MS Run #.......: 2207214						
Copper									
	ND	0.250	0.257	mg/L	103		SW846 6010B	07/26-07/27/02	E5E111AM
	ND	0.250	0.253	mg/L	101	1.5	SW846 6010B	07/26-07/27/02	E5E111AN
			Analysis Time..: 20:19						
			MS Run #.......: 2207214						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G260291 **Matrix.........:** WATER
Date Sampled...: 07/26/02 08:10 **Date Received..:** 07/26/02 13:30

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #...: E5E111AR		MS Lot-Sample #:	E2G260291-001
	103	(80 - 120)	SW846 7199	07/29/02	2211408
		Analysis Time..: 17:41			
		MS Run #.......: 2211153			
Dissolved Hexavalent Chromium		Work Order #...: E5E2K1AJ		MS Lot-Sample #:	E2G260291-003
	107	(80 - 120)	SW846 7199	07/26/02	2207558
		Analysis Time..: 15:05			
		MS Run #.......: 2207237			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E2G260291 **Matrix.........:** WATER
Date Sampled...: 07/26/02 08:10 **Date Received..:** 07/26/02 13:30

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #...: E5E111AR			MS Lot-Sample #: E2G260291-001		
	10.0	20.0	30.5	mg/L	103	SW846 7199	07/29/02	2211408
			Analysis Time..: 17:41					
			MS Run #.......: 2211153					
Dissolved Hexavalent Chromium			Work Order #...: E5E2K1AJ			MS Lot-Sample #: E2G260291-003		
	ND	0.020	0.0214	mg/L	107	SW846 7199	07/26/02	2207558
			Analysis Time..: 15:05					
			MS Run #.......: 2207237					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G260291 **Work Order #...:** E5E11-SMP E5E11-DUP **Matrix.......:** WATER

Date Sampled...: 07/26/02 08:10 **Date Received..:** 07/26/02 13:30

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH						SD Lot-Sample #:	E2G260291-001	
	6.7	6.7	No Units	0.060	(0-10)	SW846 9040B	07/26/02	2207544

Analysis Time..: 16:34 MS Run Number..: 2207225

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G260291 **Work Order #...:** E5E2K-SMP E5E2K-DUP **Matrix.......:** WATER

Date Sampled...: 07/26/02 08:50 **Date Received..:** 07/26/02 13:30

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium					SD Lot-Sample #: E2G260291-003		
ND	ND	mg/L	0	(0-20)	SW846 7199	07/26/02	2207558

Analysis Time..: 15:05 MS Run Number..: 2207237

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G260291 **Work Order #...:** E5E11-SMP E5E11-DUP **Matrix.......:** WATER

Date Sampled...: 07/26/02 08:10 **Date Received..:** 07/26/02 13:30

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium					SD Lot-Sample #: E2G260291-001		
10.0	10.1	mg/L	1.3	(0-20)	SW846 7199	07/29/02	2211408

Analysis Time..: 17:41 MS Run Number..: 2211153

SEVERN TRENT SERVICES

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705-4808

Tel: 714 258 8610
Fax: 714 258 0921
www.stl-inc.com

July 31, 2002

STL LOT NUMBER: E2G240329
NELAP Certification Number: 01118CA
PO/CONTRACT: 2279-11462-111.FLD

Sharon Wallin
Camp, Dresser, McKee
18881 Von Karman, Suite 650
Irvine, CA 92612

Dear Ms. Wallin,

This report contains the analytical results for the six samples received under chain of custody by STL Los Angeles on July 24, 2002. These samples are associated with your PTI - Santa Fe Springs project.

All applicable quality control procedures met method-specified acceptance criteria. See Project Receipt Checklist for container temperature and conditions. Temperature reading between 2 to 6 degrees Celsius is considered within acceptable criteria. Any matrix related anomaly is footnoted within the report.

STL Los Angeles certifies that the tests performed at our facility meet all NELAP requirements for parameters for which accreditation is required or available. The case narrative is an integral part of the report. This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions, please feel free to call me at (714) 258-8610 extension 309.

Sincerely,

Diane Suzuki
Project Manager

CC: Project File

STL LOS ANGELES
PROJECT RECEIPT CHECKLIST

Date: 7/24/02

Quantims Lot #: E2G240329
Quote #: 29756
Client Name: Philbrotech
Project: Philbrotech
Received by: Pacolb
Date/Time Received: 7/24/02 17:35
Delivered by : ☐Client ☐Airborne ☐Fed Ex ☐DHL ☐In-House Courier ☐Rey B.
☐UPS ☒DES ☐Other ________

Initial / Date

Custody Seal Status: ☐Intact ☐Broken ☒None .... NR 7/24/02
Custody Seal #(s): ________ ☒No Seal # ....
Sample Container(s): ☒STL-LA ☐Client ☐N/A ....
Temperature(s) (Cooler/blank) in °C: 6.1° Correction factor -0.2°c (Corrected Temp.) 5.9°C
Thermometer Used : ID: B ☒IR (Infra-red) ☐Digital (Probe) ....
Samples: ☒Intact ☐Broken ☐Other ________ ....
Anomalies: ☐No ☒Yes (See Clouseau) ....
Labeled by ..NR........
Labeling checked by ....

Turn Around Time: ☐RUSH-24HR ☐RUSH-48HR ☐RUSH-72HR ☒NORMAL ....
Short-Hold Notification: ☐Ph ☒Wet Chem ☐Metals (Filter/Pres) ☐Encore ☐N/A ...
Outside Analysis(es) (Test/Lab/Date Sent Out) : none

********** LEAVE NO BLANK SPACES ; USE N/A **********

Fraction	1->5	6									PH
VOAh /*	3	3									N/A
500PBn	1	–									<2
250PB	1	–									–
125PB	1	–									–

h:HCl; na:Sodium Hydoxide; znna:Zinc Acetate/Sodium Hydroxide; s: H2SO4; n:HNO3; n/f:HNO3-Field filtered; n/f/l:HNO3-Lab filtered
CGJ:Clear Glass Jar; CGB:Clear Glass Bottle; AGJ:Amber Glass Jar; AGB:Amber Glass Bottle; PB: Poly Bottle; E:Encore Sampler; V:VOA; SL:Sleeve
* Number of VOA's w/ Headspace present

LOGGED BY/DATE: Pacolb 7/24/02 REVIEWED BY/DATE: [signature] 7/24/02

PRC Ver. 6 081401 KRF
QANACA01\N:\Precis\Sample Control Forms

SEVERN TRENT SERVICES

Analytical Report

SEVERN TRENT SERVICES

QA/QC

EXECUTIVE SUMMARY - Detection Highlights

E2G240329

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
PTI-MW-01S-054 07/24/02 11:40 001				
cis-1,2-Dichloroethene	1.8	1.0	ug/L	SW846 8260B
Tetrachloroethene	1.2	1.0	ug/L	SW846 8260B
Trichloroethene	6.2	1.0	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	0.0018	0.0010	mg/L	SW846 7199
pH	7.0	0.10	No Units	SW846 9040B
PTI-MW-01D-054 07/24/02 13:40 002				
Tetrachloroethene	1.7	1.0	ug/L	SW846 8260B
Trichloroethene	2.8	1.0	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	0.0050	0.0010	mg/L	SW846 7199
pH	7.5	0.10	No Units	SW846 9040B
PTI-EB-01-054 07/24/02 14:05 003				
Methylene chloride	2.2	1.0	ug/L	SW846 8260B
pH	6.4	0.10	No Units	SW846 9040B
PTI-MW-03-054 07/24/02 15:00 004				
Carbon tetrachloride	28	5.0	ug/L	SW846 8260B
Chloroform	31	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	34	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	36	5.0	ug/L	SW846 8260B
Tetrachloroethene	5.5	5.0	ug/L	SW846 8260B
Trichloroethene	260	5.0	ug/L	SW846 8260B
pH	7.1	0.10	No Units	SW846 9040B
PTI-MW-15S-054 07/24/02 16:20 005				
Carbon tetrachloride	1.3	1.0	ug/L	SW846 8260B
Chloroform	2.8	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	3.0	1.0	ug/L	SW846 8260B
Tetrachloroethene	1.2	1.0	ug/L	SW846 8260B
Trichloroethene	4.4	1.0	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	0.0060	0.0010	mg/L	SW846 7199
pH	7.4	0.10	No Units	SW846 9040B

METHODS SUMMARY

E2G240329

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
pH Aqueous	SW846 9040B	SW846 9040B
Hexavalent Chromium	SW846 7199	SW846 7199
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3005A
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

E2G240329

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E49GF	001	PTI-MW-01S-054	07/24/02	11:40
E49GG	002	PTI-MW-01D-054	07/24/02	13:40
E49GH	003	PTI-EB-01-054	07/24/02	14:05
E49GJ	004	PTI-MW-03-054	07/24/02	15:00
E49GL	005	PTI-MW-15S-054	07/24/02	16:20
E49GM	006	PTI-TB-01-054	07/24/02	12:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-01S-054

GC/MS Volatiles

Lot-Sample #...:	E2G240329-001	**Work Order #...:**	E49GF1AA	**Matrix.........:**	WATER
Date Sampled...:	07/24/02 11:40	**Date Received..:**	07/24/02 17:35	**MS Run #.......:**	2206234
Prep Date......:	07/24/02	**Analysis Date..:**	07/24/02		
Prep Batch #...:	2206520	**Analysis Time..:**	23:54		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	**1.8**	**1.0**	**ug/L**	**0.30**
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	**1.2**	**1.0**	**ug/L**	**0.30**
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	**6.2**	**1.0**	**ug/L**	**0.30**
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	104	(75 - 130)
1,2-Dichloroethane-d4	126	(65 - 135)
Toluene-d8	109	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-01S-054

TOTAL Metals

Lot-Sample #...: E2G240329-001 **Matrix.......:** WATER
Date Sampled...: 07/24/02 11:40 **Date Received..:** 07/24/02 17:35

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2206207						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/25-07/26/02	E49GF1AC
		Analysis Time..: 14:03		MS Run #.......: 2206079	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/25-07/26/02	E49GF1AD
		Analysis Time..: 14:03		MS Run #.......: 2206079	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/25-07/26/02	E49GF1AE
		Analysis Time..: 14:03		MS Run #.......: 2206079	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-01S-054

General Chemistry

Lot-Sample #...: E2G240329-001 Work Order #...: E49GF Matrix.........: WATER
Date Sampled...: 07/24/02 11:40 Date Received..: 07/24/02 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	7.0	0.10	No Units	SW846 9040B	07/24/02	2205550
		Analysis Time..: 18:56		MS Run #.......: 2205316	MDL............: 0.10	
Dissolved Hexavalent Chromium	0.0018	0.0010	mg/L	SW846 7199	07/24/02	2206395
		Analysis Time..: 19:07		MS Run #.......: 2206171	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-01D-054

GC/MS Volatiles

Lot-Sample #...: E2G240329-002 **Work Order #...:** E49GG1AA **Matrix.........:** WATER
Date Sampled...: 07/24/02 13:40 **Date Received..:** 07/24/02 17:35 **MS Run #........:** 2206234
Prep Date......: 07/24/02 **Analysis Date..:** 07/25/02
Prep Batch #...: 2206520 **Analysis Time..:** 00:18
Method.........: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	**1.7**	**1.0**	**ug/L**	**0.30**
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	**2.8**	**1.0**	**ug/L**	**0.30**
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	106	(75 - 130)
1,2-Dichloroethane-d4	123	(65 - 135)
Toluene-d8	110	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-01D-054

TOTAL Metals

Lot-Sample #...: E2G240329-002 **Matrix.......:** WATER
Date Sampled...: 07/24/02 13:40 **Date Received..:** 07/24/02 17:35

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2206207						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/25-07/26/02	E49GG1AC
		Analysis Time..: 14:11		MS Run #.......: 2206079	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/25-07/26/02	E49GG1AD
		Analysis Time..: 14:11		MS Run #.......: 2206079	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/25-07/26/02	E49GG1AE
		Analysis Time..: 14:11		MS Run #.......: 2206079	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-01D-054

General Chemistry

Lot-Sample #...: E2G240329-002   Work Order #...: E49GG   Matrix.........: WATER
Date Sampled...: 07/24/02 13:40   Date Received..: 07/24/02 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	7.5	0.10	No Units	SW846 9040B	07/24/02	2205550
		Analysis Time..: 19:02		MS Run #.......: 2205316	MDL............: 0.10	
Dissolved Hexavalent Chromium	0.0050	0.0010	mg/L	SW846 7199	07/24/02	2206395
		Analysis Time..: 19:26		MS Run #.......: 2206171	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-EB-01-054

GC/MS Volatiles

Lot-Sample #...: E2G240329-003 **Work Order #...:** E49GH1AA **Matrix.........:** WATER
Date Sampled...: 07/24/02 14:05 **Date Received..:** 07/24/02 17:35 **MS Run #.......:** 2206234
Prep Date......: 07/24/02 **Analysis Date..:** 07/24/02
Prep Batch #...: 2206520 **Analysis Time..:** 23:31
Method.........: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	**2.2**	**1.0**	**ug/L**	**0.30**
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	106	(75 - 130)
1,2-Dichloroethane-d4	124	(65 - 135)
Toluene-d8	110	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-EB-01-054

TOTAL Metals

Lot-Sample #...: E2G240329-003 **Matrix.......:** WATER
Date Sampled...: 07/24/02 14:05 **Date Received..:** 07/24/02 17:35

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2206207						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/25-07/26/02	E49GH1AC
		Analysis Time..: 14:19		MS Run #.......: 2206079	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/25-07/26/02	E49GH1AD
		Analysis Time..: 14:19		MS Run #.......: 2206079	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/25-07/26/02	E49GH1AE
		Analysis Time..: 14:19		MS Run #.......: 2206079	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-EB-01-054

General Chemistry

Lot-Sample #...: E2G240329-003 **Work Order #...:** E49GH **Matrix.........:** WATER
Date Sampled...: 07/24/02 14:05 **Date Received..:** 07/24/02 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	**6.4**	**0.10**	**No Units**	**SW846 9040B**	**07/24/02**	**2205550**
	Analysis Time..: 19:05			MS Run #.......: 2205316	MDL............: 0.10	
Dissolved Hexavalent Chromium	ND	0.0010	mg/L	SW846 7199	07/24/02	2206395
	Analysis Time..: 19:45			MS Run #.......: 2206171	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-03-054

GC/MS Volatiles

Lot-Sample #...:	E2G240329-004	**Work Order #...:**	E49GJ1AA	**Matrix.........:**	WATER
Date Sampled...:	07/24/02 15:00	**Date Received..:**	07/24/02 17:35	**MS Run #.......:**	2206234
Prep Date......:	07/24/02	**Analysis Date..:**	07/25/02		
Prep Batch #...:	2206520	**Analysis Time..:**	00:42		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	5.0	ug/L	1.5
Bromodichloromethane	ND	5.0	ug/L	1.5
Bromoform	ND	5.0	ug/L	1.5
Bromomethane	ND	10	ug/L	5.0
Carbon tetrachloride	**28**	**5.0**	**ug/L**	**1.5**
Chlorobenzene	ND	5.0	ug/L	1.5
Dibromochloromethane	ND	5.0	ug/L	2.0
Chloroethane	ND	10	ug/L	1.5
Chloroform	**31**	**5.0**	**ug/L**	**1.5**
Chloromethane	ND	10	ug/L	1.5
1,2-Dichlorobenzene	ND	5.0	ug/L	1.5
1,3-Dichlorobenzene	ND	5.0	ug/L	1.5
1,4-Dichlorobenzene	ND	5.0	ug/L	1.5
1,1-Dichloroethane	**34**	**5.0**	**ug/L**	**1.0**
1,2-Dichloroethane	ND	5.0	ug/L	2.0
1,1-Dichloroethene	**36**	**5.0**	**ug/L**	**1.5**
cis-1,2-Dichloroethene	ND	5.0	ug/L	1.5
trans-1,2-Dichloroethene	ND	5.0	ug/L	1.5
1,2-Dichloropropane	ND	5.0	ug/L	1.5
cis-1,3-Dichloropropene	ND	5.0	ug/L	1.5
trans-1,3-Dichloropropene	ND	5.0	ug/L	2.5
Ethylbenzene	ND	5.0	ug/L	1.0
Methylene chloride	ND	5.0	ug/L	1.5
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	2.0
Tetrachloroethene	**5.5**	**5.0**	**ug/L**	**1.5**
Toluene	ND	5.0	ug/L	1.5
1,1,1-Trichloroethane	ND	5.0	ug/L	1.0
1,1,2-Trichloroethane	ND	5.0	ug/L	1.5
Trichloroethene	**260**	**5.0**	**ug/L**	**1.5**
Trichlorofluoromethane	ND	10	ug/L	1.5
Vinyl chloride	ND	10	ug/L	1.5
m-Xylene & p-Xylene	ND	5.0	ug/L	2.5
o-Xylene	ND	5.0	ug/L	1.0

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	102	(75 - 130)
1,2-Dichloroethane-d4	116	(65 - 135)
Toluene-d8	108	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-03-054

TOTAL Metals

Lot-Sample #...: E2G240329-004 **Matrix.......:** WATER
Date Sampled...: 07/24/02 15:00 **Date Received..:** 07/24/02 17:35

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2206207						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/25-07/26/02	E49GJ1AC
		Analysis Time..: 14:25		MS Run #.......: 2206079	MDL............: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/25-07/26/02	E49GJ1AD
		Analysis Time..: 14:25		MS Run #.......: 2206079	MDL............: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/25-07/26/02	E49GJ1AE
		Analysis Time..: 14:25		MS Run #.......: 2206079	MDL............: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-03-054

General Chemistry

Lot-Sample #...: E2G240329-004 **Work Order #...:** E49GJ **Matrix..........:** WATER
Date Sampled...: 07/24/02 15:00 **Date Received..:** 07/24/02 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	**7.1**	**0.10**	**No Units**	**SW846 9040B**	**07/24/02**	**2205550**
		Analysis Time..: 19:08		MS Run #.......: 2205316	MDL............: 0.10	
Dissolved Hexavalent Chromium	ND	0.0010	mg/L	SW846 7199	07/24/02	2206395
		Analysis Time..: 20:04		MS Run #.......: 2206171	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-15S-054

GC/MS Volatiles

Lot-Sample #...: E2G240329-005 **Work Order #...:** E49GL1AA **Matrix.........:** WATER
Date Sampled...: 07/24/02 16:20 **Date Received..:** 07/24/02 17:35 **MS Run #.......:** 2206234
Prep Date......: 07/24/02 **Analysis Date..:** 07/25/02
Prep Batch #...: 2206520 **Analysis Time..:** 01:05
Method.........: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	**1.3**	**1.0**	**ug/L**	**0.30**
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	**2.8**	**1.0**	**ug/L**	**0.30**
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	**3.0**	**1.0**	**ug/L**	**0.40**
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	**1.2**	**1.0**	**ug/L**	**0.30**
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	**4.4**	**1.0**	**ug/L**	**0.30**
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	103	(75 - 130)
1,2-Dichloroethane-d4	121	(65 - 135)
Toluene-d8	109	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-15S-054

TOTAL Metals

Lot-Sample #...: E2G240329-005 **Matrix.......:** WATER
Date Sampled...: 07/24/02 16:20 **Date Received..:** 07/24/02 17:35

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2206207						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/25-07/26/02	E49GL1AC
		Analysis Time..: 14:33		MS Run #.......: 2206079	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/25-07/26/02	E49GL1AD
		Analysis Time..: 14:33		MS Run #.......: 2206079	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/25-07/26/02	E49GL1AE
		Analysis Time..: 14:33		MS Run #.......: 2206079	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-15S-054

General Chemistry

Lot-Sample #...: E2G240329-005 **Work Order #...:** E49GL **Matrix.........:** WATER
Date Sampled...: 07/24/02 16:20 **Date Received..:** 07/24/02 17:35

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	7.4	0.10	No Units	SW846 9040B	07/24/02	2205550
	Analysis Time..: 19:11			MS Run #.......: 2205316	MDL...........: 0.10	
Dissolved Hexavalent Chromium	0.0060	0.0010	mg/L	SW846 7199	07/24/02	2206395
	Analysis Time..: 20:42			MS Run #.......: 2206171	MDL...........: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-TB-01-054

GC/MS Volatiles

Lot-Sample #...:	E2G240329-006	Work Order #...:	E49GM1AA	Matrix.........:	WATER
Date Sampled...:	07/24/02 12:00	Date Received..:	07/24/02 17:35	MS Run #........:	2206234
Prep Date......:	07/24/02	Analysis Date..:	07/24/02		
Prep Batch #...:	2206520	Analysis Time..:	23:07		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	102	(75 - 130)
1,2-Dichloroethane-d4	117	(65 - 135)
Toluene-d8	108	(80 - 130)

SEVERN
TRENT
SERVICES

QA/QC

QC DATA ASSOCIATION SUMMARY

E2G240329

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 9040B		2205550	2205316
	WATER	SW846 8260B		2206520	2206234
	WATER	SW846 6010B		2206207	2206079
	WATER	SW846 7199		2206395	2206171
002	WATER	SW846 9040B		2205550	2205316
	WATER	SW846 8260B		2206520	2206234
	WATER	SW846 6010B		2206207	2206079
	WATER	SW846 7199		2206395	2206171
003	WATFR	SW846 9040B		2205550	2205316
	WATFR	SW846 8260B		2206520	2206234
	WATER	SW846 6010B		2206207	2206079
	WATER	SW846 7199		2206395	2206171
004	WATER	SW846 9040B		2205550	2205316
	WATER	SW846 8260B		2206520	2206234
	WATER	SW846 6010B		2206207	2206079
	WATER	SW846 7199		2206395	2206171
005	WATER	SW846 9040B		2205550	2205316
	WATER	SW846 8260B		2206520	2206234
	WATER	SW846 6010B		2206207	2206079
	WATER	SW846 7199		2206395	2206171
006	WATER	SW846 8260B		2206520	2206234

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E2G240329 **Work Order #...:** E5C471AA **Matrix.........:** WATER
MB Lot-Sample #: E2G250000-520
Prep Date......: 07/24/02 **Analysis Time..:** 22:43
Analysis Date..: 07/24/02 **Prep Batch #...:** 2206520

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	2.0	ug/L	SW846 8260B
Vinyl chloride	ND	2.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	104	(75 - 130)
1,2-Dichloroethane-d4	119	(65 - 135)
Toluene-d8	106	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: E2G240329 **Matrix.........:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: E2G250000-207 **Prep Batch #...:** 2206207						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/25-07/26/02	E494F1AK
		Analysis Time..: 13:50				
Chromium	ND	0.010	mg/L	SW846 6010B	07/25-07/26/02	E494F1AQ
		Analysis Time..: 13:50				
Copper	ND	0.025	mg/L	SW846 6010B	07/25-07/26/02	E494F1AL
		Analysis Time..: 13:50				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: E2G240329 **Matrix.........:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: E5A811AA		MB Lot-Sample #:	E2G250000-395	
	ND	0.0010	mg/L	SW846 7199	07/24/02	2206395
		Analysis Time..: 18:32				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2G240329 **Work Order #...:** E5C471AC **Matrix.........:** WATER
LCS Lot-Sample#: E2G250000-520
Prep Date......: 07/24/02 **Analysis Date..:** 07/24/02
Prep Batch #...: 2206520 **Analysis Time..:** 21:56

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**92**	**(75 - 120)**	**SW846 8260B**
Chlorobenzene	**81**	**(75 - 120)**	**SW846 8260B**
1,1-Dichloroethene	**107**	**(70 - 140)**	**SW846 8260B**
Toluene	**87**	**(75 - 125)**	**SW846 8260B**
Trichloroethene	**91**	**(70 - 130)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	110	(75 - 130)
1,2-Dichloroethane-d4	105	(65 - 135)
Toluene-d8	114	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2G240329 **Work Order #...:** E5C471AC **Matrix.........:** WATER
LCS Lot-Sample#: E2G250000-520
Prep Date......: 07/24/02 **Analysis Date..:** 07/24/02
Prep Batch #...: 2206520 **Analysis Time..:** 21:56

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	**10.0**	**9.18**	**ug/L**	**92**	**SW846 8260B**
Chlorobenzene	**10.0**	**8.09**	**ug/L**	**81**	**SW846 8260B**
1,1-Dichloroethene	**10.0**	**10.7**	**ug/L**	**107**	**SW846 8260B**
Toluene	**10.0**	**8.68**	**ug/L**	**87**	**SW846 8260B**
Trichloroethene	**10.0**	**9.11**	**ug/L**	**91**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	110	(75 - 130)
1,2-Dichloroethane-d4	105	(65 - 135)
Toluene-d8	114	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: E2G240329 **Matrix.........:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: E2G250000-207 **Prep Batch #...:** 2206207					
Cadmium	99	(80 - 120)	SW846 6010B	07/25-07/26/02	E494F1AR
		Analysis Time..: 13:55			
Chromium	100	(85 - 120)	SW846 6010B	07/25-07/26/02	E494F1AX
		Analysis Time..: 13:55			
Copper	103	(80 - 120)	SW846 6010B	07/25-07/26/02	E494F1AT
		Analysis Time..: 13:55			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E2G240329 **Matrix.........:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: E2G250000-207 **Prep Batch #...:** 2206207							
Cadmium	0.0500	0.0496	mg/L	99	SW846 6010B	07/25-07/26/02	E494F1AR
			Analysis Time..: 13:55				
Chromium	0.200	0.200	mg/L	100	SW846 6010B	07/25-07/26/02	E494F1AX
			Analysis Time..: 13:55				
Copper	0.250	0.256	mg/L	103	SW846 6010B	07/25-07/26/02	E494F1AT
			Analysis Time..: 13:55				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G240329 **Matrix.........: WATER**

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH		Work Order #: E49JR1AA	LCS Lot-Sample#: E2G240000-550		
	100	(90 - 110)	SW846 9040B	07/24/02	2205550
		Analysis Time..: 18:53			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E2G240329 **Matrix.........:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH			Work Order #: E49JR1AA		LCS Lot-Sample#: E2G240000-550		
	9.18	9.19	No Units	100	SW846 9040B	07/24/02	2205550
			Analysis Time..: 18:53				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G240329 **Matrix.........:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: E5A811AC LCS Lot-Sample#: E2G250000-395			
	106	(90 - 110)	SW846 7199	07/24/02	2206395
		Analysis Time..: 18:23			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E2G240329 **Matrix.........:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #: E5A811AC		LCS Lot-Sample#: E2G250000-395		
	0.0200	0.0213	mg/L	106	SW846 7199	07/24/02	2206395
			Analysis Time..: 18:23				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2G240329 **Work Order #...:** E49GF1AQ-MS **Matrix.........:** WATER
MS Lot-Sample #: E2G240329-001 E49GF1AR-MSD
Date Sampled...: 07/24/02 11:40 **Date Received..:** 07/24/02 17:35 **MS Run #.......:** 2206234
Prep Date......: 07/24/02 **Analysis Date..:** 07/25/02
Prep Batch #...: 2206520 **Analysis Time..:** 01:29

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**96**	**(75 - 120)**			**SW846 8260B**
	91	**(75 - 120)**	**5.6**	**(0-25)**	**SW846 8260B**
Chlorobenzene	**82**	**(75 - 120)**			**SW846 8260B**
	79	**(75 - 120)**	**3.2**	**(0-25)**	**SW846 8260B**
1,1-Dichloroethene	**112**	**(70 - 140)**			**SW846 8260B**
	106	**(70 - 140)**	**5.1**	**(0-25)**	**SW846 8260B**
Toluene	**88**	**(75 - 125)**			**SW846 8260B**
	85	**(75 - 125)**	**3.5**	**(0-25)**	**SW846 8260B**
Trichloroethene	**96**	**(70 - 130)**			**SW846 8260B**
	88	**(70 - 130)**	**5.2**	**(0-25)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	108	(75 - 130)
	108	(75 - 130)
1,2-Dichloroethane-d4	114	(65 - 135)
	109	(65 - 135)
Toluene-d8	110	(80 - 130)
	110	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2G240329 **Work Order #...:** E49GF1AQ-MS **Matrix.........:** WATER
MS Lot-Sample #: E2G240329-001 E49GF1AR-MSD
Date Sampled...: 07/24/02 11:40 **Date Received..:** 07/24/02 17:35 **MS Run #.......:** 2206234
Prep Date......: 07/24/02 **Analysis Date..:** 07/25/02
Prep Batch #...: 2206520 **Analysis Time..:** 01:29

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	**ND**	**10.0**	**9.59**	**ug/L**	**96**		**SW846 8260B**
	ND	**10.0**	**9.07**	**ug/L**	**91**	**5.6**	**SW846 8260B**
Chlorobenzene	**ND**	**10.0**	**8.16**	**ug/L**	**82**		**SW846 8260B**
	ND	**10.0**	**7.90**	**ug/L**	**79**	**3.2**	**SW846 8260B**
1,1-Dichloroethene	**ND**	**10.0**	**11.9**	**ug/L**	**112**		**SW846 8260B**
	ND	**10.0**	**11.3**	**ug/L**	**106**	**5.1**	**SW846 8260B**
Toluene	**ND**	**10.0**	**8.79**	**ug/L**	**88**		**SW846 8260B**
	ND	**10.0**	**8.49**	**ug/L**	**85**	**3.5**	**SW846 8260B**
Trichloroethene	**6.2**	**10.0**	**15.8**	**ug/L**	**96**		**SW846 8260B**
	6.2	**10.0**	**15.0**	**ug/L**	**88**	**5.2**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	108	(75 - 130)
	108	(75 - 130)
1,2-Dichloroethane-d4	114	(65 - 135)
	109	(65 - 135)
Toluene-d8	110	(80 - 130)
	110	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: E2G240329 **Matrix.........:** WATER
Date Sampled...: 07/19/02 11:00 **Date Received..:** 07/24/02 11:45

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: E2G240223-001 **Prep Batch #...:** 2206207							
Cadmium	95	(80 - 120)			SW846 6010B	07/25-07/26/02	E48EW1AQ
	95	(80 - 120)	0.45	(0-20)	SW846 6010B	07/25-07/26/02	E48EW1AR
		Analysis Time..: 15:09					
		MS Run #.......: 2206079					
Chromium	96	(85 - 120)			SW846 6010B	07/25-07/26/02	E48EW1A8
	96	(85 - 120)	0.34	(0-20)	SW846 6010B	07/25-07/26/02	E48EW1A9
		Analysis Time..: 15:09					
		MS Run #.......: 2206079					
Copper	105	(80 - 120)			SW846 6010B	07/25-07/26/02	E48EW1AU
	105	(80 - 120)	0.08	(0-20)	SW846 6010B	07/25-07/26/02	E48EW1AV
		Analysis Time..: 15:09					
		MS Run #.......: 2206079					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E2G240329 **Matrix.........:** WATER
Date Sampled...: 07/19/02 11:00 **Date Received..:** 07/24/02 11:45

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: E2G240223-001 **Prep Batch #...:** 2206207									
Cadmium									
	ND	0.0500	0.0486	mg/L	95		SW846 6010B	07/25-07/26/02	E48EW1AQ
	ND	0.0500	0.0484	mg/L	95	0.45	SW846 6010B	07/25-07/26/02	E48EW1AR
			Analysis Time..: 15:09						
			MS Run #.......: 2206079						
Chromium									
	0.015	0.200	0.208	mg/L	96		SW846 6010B	07/25-07/26/02	E48EW1A8
	0.015	0.200	0.207	mg/L	96	0.34	SW846 6010B	07/25-07/26/02	E48EW1A9
			Analysis Time..: 15:09						
			MS Run #.......: 2206079						
Copper									
	ND	0.250	0.274	mg/L	105		SW846 6010B	07/25-07/26/02	E48EW1AU
	ND	0.250	0.274	mg/L	105	0.08	SW846 6010B	07/25-07/26/02	E48EW1AV
			Analysis Time..: 15:09						
			MS Run #.......: 2206079						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G240329 **Matrix.........:** WATER
Date Sampled...: 07/24/02 11:40 **Date Received..:** 07/24/02 17:35

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #...: E49GF1AN		MS Lot-Sample #: E2G240329-001	
	100	(80 - 120)	SW846 7199	07/24/02	2206395
		Analysis Time..: 19:07			
		MS Run #.......: 2206171			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E2G240329 **Matrix.........:** WATER
Date Sampled...: 07/24/02 11:40 **Date Received..:** 07/24/02 17:35

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #...: E49GF1AN			MS Lot-Sample #: E2G240329-001		
	0.0018	0.020	0.0219	mg/L	100	SW846 7199	07/24/02	2206395
			Analysis Time..: 19:07					
			MS Run #.......: 2206171					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G240329 **Work Order #...:** E49GF-SMP E49GF-DUP **Matrix.......:** WATER

Date Sampled...: 07/24/02 11:40 **Date Received..:** 07/24/02 17:35

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH						SD Lot-Sample #: E2G240329-001		
	7.0	7.0	No Units	0.24	(0-10)	SW846 9040B	07/24/02	2205550

Analysis Time..: 18:56 MS Run Number..: 2205316

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G240329 **Work Order #...:** E49GF-SMP E49GF-DUP **Matrix.......:** WATER

Date Sampled...: 07/24/02 11:40 **Date Received..:** 07/24/02 17:35

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium						SD Lot-Sample #: E2G240329-001		
	0.0018	0.0018	mg/L	2.1	(0-20)	SW846 7199	07/24/02	2206395

Analysis Time..: 19:07 MS Run Number..: 2206171

SEVERN TRENT SERVICES

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705-4808

Tel: 714 258 8610
Fax: 714 258 0921
www.stl-inc.com

July 31, 2002

STL LOT NUMBER: E2G250367
NELAP Certification Number: 01118CA
PO/CONTRACT: 2279-11462-111.FLD

Sharon Wallin
Camp, Dresser, McKee
18881 Von Karman, Suite 650
Irvine, CA 92612

Dear Ms. Wallin,

This report contains the analytical results for the nine samples received under chain of custody by STL Los Angeles on July 25, 2002. These samples are associated with your PTI - Santa Fe Springs project.

All applicable quality control procedures met method-specified acceptance criteria. See Project Receipt Checklist for container temperature and conditions. Temperature reading between 2 to 6 degrees Celsius is considered within acceptable criteria. Any matrix related anomaly is footnoted within the report.

STL Los Angeles certifies that the tests performed at our facility meet all NELAP requirements for parameters for which accreditation is required or available. The case narrative is an integral part of the report. This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions, please feel free to call me at (714) 258-8610 extension 309.

Sincerely,

Diane Suzuki
Project Manager

CC: Project File

Page 1 of 000054 total pages in this report.

STL LOS ANGELES
PROJECT RECEIPT CHECKLIST

Date: 7/25/02

Quantims Lot #: E2G250367
Quote #: 29756
Client Name: CDM
Project: Philbro Tech
Received by: RS
Date/Time Received: 7/25/02 16:50

Delivered by : ☐Client ☐Airborne ☐Fed Ex ☐DHL ☐In-House Courier ☐Rey B.
☐UPS ☒DES ☐Other ____________

Initial / Date

Custody Seal Status: ☐Intact ☐Broken ☒None 7/25/02
Custody Seal #(s): ____________ ☒No Seal # ....
Sample Container(s): ☒STL-LA ☐Client ☐N/A ....
Temperature(s) (Cooler/blank) in °C: 6.0 Correction factor -0.2°c (Corrected Temp.) 5.8°c
Thermometer Used : ID: B ☒IR (Infra-red) ☐Digital (Probe) ....
Samples: ☒Intact ☐Broken ☐Other ________ ....
Anomalies: ☒No ☒Yes (See Clouseau) (pH for Cr(VI)) ....
Labeled by ....
Labeling checked by ....R.S.......

Turn Around Time: ☐RUSH-24HR ☐RUSH-48HR ☐RUSH-72HR ☒NORMAL ....
Short-Hold Notification: ☒Ph ☒Wet Chem ☐Metals (Filter/Pres) ☐Encore ☐N/A ...
Outside Analysis(es) (Test/Lab/Date Sent Out) : none

********* LEAVE NO BLANK SPACES ; USE N/A *********

Fraction	1→7	8	9								PH
VOAh /*	3	3	3								N/A
500 mL PBn	1		1								<2
250 mL PB	1		1								—
125 mL PB	1		1								—

h:HCl; na:Sodium Hydoxide; znna:Zinc Acetate/Sodium Hydroxide; s: H2SO4; n:HNO3; n/f:HNO3-Field filtered; n/f/l:HNO3-Lab filtered
CGJ:Clear Glass Jar; CGB:Clear Glass Bottle; AGJ:Amber Glass Jar; AGB:Amber Glass Bottle; PB: Poly Bottle; E:Encore Sampler; V:VOA; SL:Sleeve
* Number of VOA's w/ Headspace present

LOGGED BY/DATE: 7/25/02 REVIEWED BY/DATE: 7-26-02

PRC Ver. 6 081401 KRF QANACA01\\...\Sample Control Forms

SEVERN TRENT SERVICES

Analytical Report

EXECUTIVE SUMMARY - Detection Highlights

E2G250367

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
PTI-MW-15D-054 07/25/02 08:20 001				
Tetrachloroethene	1.9	1.0	ug/L	SW846 8260B
Trichloroethene	3.4	1.0	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	0.0047	0.0010	mg/L	SW846 7199
pH	7.6	0.10	No Units	SW846 9040B
PTI-MW-06D-054 07/25/02 09:35 002				
Trichloroethene	3.9	1.0	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	0.0015	0.0010	mg/L	SW846 7199
pH	7.4	0.10	No Units	SW846 9040B
PTI-MW-06B-054 07/25/02 10:55 003				
Trichloroethene	5.0	1.0	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	0.0036	0.0010	mg/L	SW846 7199
pH	7.4	0.10	No Units	SW846 9040B
PTI-MW-14S-054 07/25/02 12:00 004				
Chromium	0.065	0.010	mg/L	SW846 6010B
Copper	0.031	0.025	mg/L	SW846 6010B
1,1-Dichloroethane	43	25	ug/L	SW846 8260B
1,1-Dichloroethene	39	25	ug/L	SW846 8260B
Ethylbenzene	860	25	ug/L	SW846 8260B
Trichloroethene	150	25	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	0.017	0.0010	mg/L	SW846 7199
pH	7.3	0.10	No Units	SW846 9040B
PTI-MW-04A-054 07/25/02 13:12 005				
1,1-Dichloroethane	6.1	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	1.8	1.0	ug/L	SW846 8260B
Tetrachloroethene	1.3	1.0	ug/L	SW846 8260B
Trichloroethene	7.1	1.0	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	0.0062	0.0010	mg/L	SW846 7199
pH	7.6	0.10	No Units	SW846 9040B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

E2G250367

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
PTI-EB-02-054 07/25/02 13:20 006				
pH	6.1	0.10	No Units	SW846 9040B
PTI-MW-04-054 07/25/02 14:20 007				
Cadmium	0.50	0.025	mg/L	SW846 6010B
Chromium	32.7	0.050	mg/L	SW846 6010B
Benzene	7.7	5.0	ug/L	SW846 8260B
Chloroform	18	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	180	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	32	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	110	5.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	210	5.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	5.0	5.0	ug/L	SW846 8260B
Ethylbenzene	220	5.0	ug/L	SW846 8260B
Methylene chloride	85	5.0	ug/L	SW846 8260B
Trichloroethene	210	5.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	300	5.0	ug/L	SW846 8260B
o-Xylene	28	5.0	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	25.1	1.0	mg/L	SW846 7199
pH	6.7	0.10	No Units	SW846 9040B
PTI-MW-37-054 07/25/02 07:15 009				
Cadmium	0.49	0.025	mg/L	SW846 6010B
Chromium	29.8	0.050	mg/L	SW846 6010B
Benzene	7.6	5.0	ug/L	SW846 8260B
Chloroform	18	5.0	ug/L	SW846 8260B
1,1-Dichloroethane	170	5.0	ug/L	SW846 8260B
1,2-Dichloroethane	32	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	110	5.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	200	5.0	ug/L	SW846 8260B
Ethylbenzene	200	5.0	ug/L	SW846 8260B
Methylene chloride	84	5.0	ug/L	SW846 8260B
Trichloroethene	210	5.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	290	5.0	ug/L	SW846 8260B
o-Xylene	27	5.0	ug/L	SW846 8260B
Dissolved Hexavalent Chromium	30.5	1.0	mg/L	SW846 7199
pH	6.7	0.10	No Units	SW846 9040B

METHODS SUMMARY

E2G250367

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
pH Aqueous	SW846 9040B	SW846 9040B
Hexavalent Chromium	SW846 7199	SW846 7199
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3005A
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

E2G250367

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E5CT9	001	PTI-MW-15D-054	07/25/02	08:20
E5CVQ	002	PTI-MW-06D-054	07/25/02	09:35
E5CVR	003	PTI-MW-06B-054	07/25/02	10:55
E5CVT	004	PTI-MW-14S-054	07/25/02	12:00
E5CVV	005	PTI-MW-04A-054	07/25/02	13:12
E5CVW	006	PTI-EB-02-054	07/25/02	13:20
E5CVX	007	PTI-MW-04-054	07/25/02	14:20
E5CV1	008	PTI-TB-02-054	07/25/02	12:00
E5CV2	009	PTI-MW-37-054	07/25/02	07:15

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-15D-054

GC/MS Volatiles

Lot-Sample #...:	E2G250367-001	**Work Order #...:**	E5CT91AA	**Matrix.........:**	WATER
Date Sampled...:	07/25/02 08:20	**Date Received..:**	07/25/02 16:50	**MS Run #.......:**	2207227
Prep Date......:	07/25/02	**Analysis Date..:**	07/26/02		
Prep Batch #...:	2207550	**Analysis Time..:**	00:59		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	**1.9**	**1.0**	**ug/L**	**0.30**
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	**3.4**	**1.0**	**ug/L**	**0.30**
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	94	(75 - 130)
1,2-Dichloroethane-d4	107	(65 - 135)
Toluene-d8	103	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-15D-054

TOTAL Metals

Lot-Sample #...: E2G250367-001 **Matrix.......:** WATER
Date Sampled...: 07/25/02 08:20 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207205						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26/02	E5CT91AC
		Analysis Time..: 19:46		MS Run #.......: 2207063	MDL............: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/26/02	E5CT91AD
		Analysis Time..: 19:46		MS Run #.......: 2207063	MDL............: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26/02	E5CT91AE
		Analysis Time..: 19:46		MS Run #.......: 2207063	MDL............: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-15D-054

General Chemistry

Lot-Sample #...: E2G250367-001 Work Order #...: E5CT9 Matrix.........: WATER
Date Sampled...: 07/25/02 08:20 Date Received..: 07/25/02 16:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	7.6	0.10	No Units	SW846 9040B	07/25/02	2206513
	Analysis Time..: 17:35			MS Run #.......: 2206231	MDL............: 0.10	
Dissolved Hexavalent Chromium	0.0047	0.0010	mg/L	SW846 7199	07/25/02	2206514
	Analysis Time..: 18:58			MS Run #.......: 2206239	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-06D-054

GC/MS Volatiles

Lot-Sample #...:	E2G250367-002	**Work Order #...:**	E5CVQ1AA	**Matrix.........:**	WATER
Date Sampled...:	07/25/02 09:35	**Date Received..:**	07/25/02 16:50	**MS Run #........:**	2207227
Prep Date......:	07/25/02	**Analysis Date..:**	07/26/02		
Prep Batch #...:	2207550	**Analysis Time..:**	01:23		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	**3.9**	**1.0**	**ug/L**	**0.30**
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	94	(75 - 130)
1,2-Dichloroethane-d4	102	(65 - 135)
Toluene-d8	104	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-06D-054

TOTAL Metals

Lot-Sample #...: E2G250367-002 **Matrix.......:** WATER
Date Sampled...: 07/25/02 09:35 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207205						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26/02	E5CVQ1AC
		Analysis Time..: 19:54		MS Run #.......: 2207063	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/26/02	E5CVQ1AD
		Analysis Time..: 19:54		MS Run #.......: 2207063	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26/02	E5CVQ1AE
		Analysis Time..: 19:54		MS Run #.......: 2207063	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-06D-054

General Chemistry

Lot-Sample #...: E2G250367-002 Work Order #...: E5CVQ Matrix.........: WATER
Date Sampled...: 07/25/02 09:35 Date Received..: 07/25/02 16:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	7.4	0.10	No Units	SW846 9040B	07/25/02	2206513
	Analysis Time..: 17:41			MS Run #.......: 2206231	MDL...........: 0.10	
Dissolved Hexavalent Chromium	0.0015	0.0010	mg/L	SW846 7199	07/25/02	2206514
	Analysis Time..: 19:17			MS Run #.......: 2206239	MDL...........: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-06B-054

GC/MS Volatiles

Lot-Sample #...:	E2G250367-003	**Work Order #...:**	E5CVR1AA	**Matrix.........:**	WATER
Date Sampled...:	07/25/02 10:55	**Date Received..:**	07/25/02 16:50	**MS Run #.......:**	2207227
Prep Date......:	07/25/02	**Analysis Date..:**	07/26/02		
Prep Batch #...:	2207550	**Analysis Time..:**	01:46		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	**5.0**	**1.0**	**ug/L**	**0.30**
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	95	(75 - 130)
1,2-Dichloroethane-d4	103	(65 - 135)
Toluene-d8	104	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-06B-054

TOTAL Metals

Lot-Sample #...: E2G250367-003 **Matrix.......:** WATER
Date Sampled...: 07/25/02 10:55 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207205						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26/02	E5CVR1AC
		Analysis Time..: 20:02		MS Run #.......: 2207063	MDL............: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/26/02	E5CVR1AD
		Analysis Time..: 20:02		MS Run #.......: 2207063	MDL............: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26/02	E5CVR1AE
		Analysis Time..: 20:02		MS Run #.......: 2207063	MDL............: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-06B-054

General Chemistry

Lot-Sample #...: E2G250367-003 **Work Order #...:** E5CVR **Matrix.........:** WATER
Date Sampled...: 07/25/02 10:55 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	7.4	0.10	No Units	SW846 9040B	07/25/02	2206513
		Analysis Time..: 17:44		MS Run #.......: 2206231	MDL............: 0.10	
Dissolved Hexavalent Chromium	0.0036	0.0010	mg/L	SW846 7199	07/25/02	2206514
		Analysis Time..: 19:36		MS Run #.......: 2206239	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-14S-054

GC/MS Volatiles

Lot-Sample #...:	E2G250367-004	**Work Order #...:**	E5CVT1AA	**Matrix.........:**	WATER
Date Sampled...:	07/25/02 12:00	**Date Received..:**	07/25/02 16:50	**MS Run #.......:**	2207227
Prep Date......:	07/25/02	**Analysis Date..:**	07/26/02		
Prep Batch #...:	2207550	**Analysis Time..:**	02:10		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	25	ug/L	7.5
Bromodichloromethane	ND	25	ug/L	7.5
Bromoform	ND	25	ug/L	7.5
Bromomethane	ND	50	ug/L	25
Carbon tetrachloride	ND	25	ug/L	7.5
Chlorobenzene	ND	25	ug/L	7.5
Dibromochloromethane	ND	25	ug/L	10
Chloroethane	ND	50	ug/L	7.5
Chloroform	ND	25	ug/L	7.5
Chloromethane	ND	50	ug/L	7.5
1,2-Dichlorobenzene	ND	25	ug/L	7.5
1,3-Dichlorobenzene	ND	25	ug/L	7.5
1,4-Dichlorobenzene	ND	25	ug/L	7.5
1,1-Dichloroethane	**43**	**25**	**ug/L**	**5.0**
1,2-Dichloroethane	ND	25	ug/L	10
1,1-Dichloroethene	**39**	**25**	**ug/L**	**7.5**
cis-1,2-Dichloroethene	ND	25	ug/L	7.5
trans-1,2-Dichloroethene	ND	25	ug/L	7.5
1,2-Dichloropropane	ND	25	ug/L	7.5
cis-1,3-Dichloropropene	ND	25	ug/L	7.5
trans-1,3-Dichloropropene	ND	25	ug/L	12
Ethylbenzene	**860**	**25**	**ug/L**	**5.0**
Methylene chloride	ND	25	ug/L	7.5
1,1,2,2-Tetrachloroethane	ND	25	ug/L	10
Tetrachloroethene	ND	25	ug/L	7.5
Toluene	ND	25	ug/L	7.5
1,1,1-Trichloroethane	ND	25	ug/L	5.0
1,1,2-Trichloroethane	ND	25	ug/L	7.5
Trichloroethene	**150**	**25**	**ug/L**	**7.5**
Trichlorofluoromethane	ND	50	ug/L	7.5
Vinyl chloride	ND	50	ug/L	7.5
m-Xylene & p-Xylene	ND	25	ug/L	12
o-Xylene	ND	25	ug/L	5.0

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	98	(75 - 130)
1,2-Dichloroethane-d4	103	(65 - 135)
Toluene-d8	103	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-14S-054

TOTAL Metals

Lot-Sample #...: E2G250367-004 **Matrix.......:** WATER
Date Sampled...: 07/25/02 12:00 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207205						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26/02	E5CVT1AC
		Analysis Time..: 20:10		MS Run #.......: 2207063	MDL...........: 0.00060	
Chromium	**0.065**	**0.010**	**mg/L**	**SW846 6010B**	**07/26/02**	**E5CVT1AD**
		Analysis Time..: 20:10		MS Run #.......: 2207063	MDL...........: 0.0010	
Copper	**0.031**	**0.025**	**mg/L**	**SW846 6010B**	**07/26/02**	**E5CVT1AE**
		Analysis Time..: 20:10		MS Run #.......: 2207063	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-14S-054

General Chemistry

Lot-Sample #...: E2G250367-004 **Work Order #...:** E5CVT **Matrix.........:** WATER
Date Sampled...: 07/25/02 12:00 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	7.3	0.10	No Units	SW846 9040B	07/25/02	2206513
	Analysis Time..: 17:47			MS Run #.......: 2206231	MDL............: 0.10	
Dissolved Hexavalent Chromium	0.017	0.0010	mg/L	SW846 7199	07/25/02	2206514
	Analysis Time..: 19:55			MS Run #.......: 2206239	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-04A-054

GC/MS Volatiles

Lot-Sample #...:	E2G250367-005	**Work Order #...:**	E5CVV1AA	**Matrix.........:**	WATER
Date Sampled...:	07/25/02 13:12	**Date Received..:**	07/25/02 16:50	**MS Run #.......:**	2207227
Prep Date......:	07/25/02	**Analysis Date..:**	07/26/02		
Prep Batch #...:	2207550	**Analysis Time..:**	02:33		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	**6.1**	**1.0**	**ug/L**	**0.20**
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	**1.8**	**1.0**	**ug/L**	**0.30**
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	**1.3**	**1.0**	**ug/L**	**0.30**
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	**7.1**	**1.0**	**ug/L**	**0.30**
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	90	(75 - 130)
1,2-Dichloroethane-d4	105	(65 - 135)
Toluene-d8	102	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-04A-054

TOTAL Metals

Lot-Sample #...: E2G250367-005 **Matrix.......:** WATER
Date Sampled...: 07/25/02 13:12 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207205						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26/02	E5CVV1AC
		Analysis Time..: 20:18		MS Run #.......: 2207063	MDL............: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/26/02	E5CVV1AD
		Analysis Time..: 20:18		MS Run #.......: 2207063	MDL............: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26/02	E5CVV1AE
		Analysis Time..: 20:18		MS Run #.......: 2207063	MDL............: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-04A-054

General Chemistry

Lot-Sample #...: E2G250367-005 **Work Order #...:** E5CVV **Matrix.........:** WATER
Date Sampled...: 07/25/02 13:12 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	7.6	0.10	No Units	SW846 9040B	07/25/02	2206513
		Analysis Time..: 17:50		MS Run #.......: 2206231	MDL............: 0.10	
Dissolved Hexavalent Chromium	0.0062	0.0010	mg/L	SW846 7199	07/25/02	2206514
		Analysis Time..: 20:14		MS Run #.......: 2206239	MDL............: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-EB-02-054

GC/MS Volatiles

Lot-Sample #...:	E2G250367-006	**Work Order #...:**	E5CVW1AA	**Matrix.........:**	WATER
Date Sampled...:	07/25/02 13:20	**Date Received..:**	07/25/02 16:50	**MS Run #.......:**	2207227
Prep Date......:	07/25/02	**Analysis Date..:**	07/25/02		
Prep Batch #...:	2207550	**Analysis Time..:**	20:15		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	92	(75 - 130)
1,2-Dichloroethane-d4	106	(65 - 135)
Toluene-d8	104	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-EB-02-054

TOTAL Metals

Lot-Sample #...: E2G250367-006 **Matrix.......:** WATER
Date Sampled...: 07/25/02 13:20 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207205						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26/02	E5CVW1AC
		Analysis Time..: 20:26		MS Run #.......: 2207063	MDL...........: 0.00060	
Chromium	ND	0.010	mg/L	SW846 6010B	07/26/02	E5CVW1AD
		Analysis Time..: 20:26		MS Run #.......: 2207063	MDL...........: 0.0010	
Copper	ND	0.025	mg/L	SW846 6010B	07/26/02	E5CVW1AE
		Analysis Time..: 20:26		MS Run #.......: 2207063	MDL...........: 0.0040	

PHIBRO-TECH, INC.

Client Sample ID: PTI-EB-02-054

General Chemistry

Lot-Sample #...: E2G250367-006 **Work Order #...:** E5CVW **Matrix.........:** WATER
Date Sampled...: 07/25/02 13:20 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	**6.1**	**0.10**	**No Units**	**SW846 9040B**	**07/25/02**	**2206513**
	Analysis Time..: 17:53		MS Run #.......: 2206231		MDL...........: 0.10	
Dissolved Hexavalent Chromium	ND	0.0010	mg/L	SW846 7199	07/25/02	2206514
	Analysis Time..: 20:52		MS Run #.......: 2206239		MDL...........: 0.00030	

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-04-054

GC/MS Volatiles

Lot-Sample #...:	E2G250367-007	**Work Order #...:**	E5CVX1AA	**Matrix.........:**	WATER
Date Sampled...:	07/25/02 14:20	**Date Received..:**	07/25/02 16:50	**MS Run #.......:**	2207227
Prep Date......:	07/25/02	**Analysis Date..:**	07/26/02		
Prep Batch #...:	2207550	**Analysis Time..:**	02:57		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	**7.7**	**5.0**	**ug/L**	**1.5**
Bromodichloromethane	ND	5.0	ug/L	1.5
Bromoform	ND	5.0	ug/L	1.5
Bromomethane	ND	10	ug/L	5.0
Carbon tetrachloride	ND	5.0	ug/L	1.5
Chlorobenzene	ND	5.0	ug/L	1.5
Dibromochloromethane	ND	5.0	ug/L	2.0
Chloroethane	ND	10	ug/L	1.5
Chloroform	**18**	**5.0**	**ug/L**	**1.5**
Chloromethane	ND	10	ug/L	1.5
1,2-Dichlorobenzene	ND	5.0	ug/L	1.5
1,3-Dichlorobenzene	ND	5.0	ug/L	1.5
1,4-Dichlorobenzene	ND	5.0	ug/L	1.5
1,1-Dichloroethane	**180**	**5.0**	**ug/L**	**1.0**
1,2-Dichloroethane	**32**	**5.0**	**ug/L**	**2.0**
1,1-Dichloroethene	**110**	**5.0**	**ug/L**	**1.5**
cis-1,2-Dichloroethene	**210**	**5.0**	**ug/L**	**1.5**
trans-1,2-Dichloroethene	**5.0**	**5.0**	**ug/L**	**1.5**
1,2-Dichloropropane	ND	5.0	ug/L	1.5
cis-1,3-Dichloropropene	ND	5.0	ug/L	1.5
trans-1,3-Dichloropropene	ND	5.0	ug/L	2.5
Ethylbenzene	**220**	**5.0**	**ug/L**	**1.0**
Methylene chloride	**85**	**5.0**	**ug/L**	**1.5**
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	2.0
Tetrachloroethene	ND	5.0	ug/L	1.5
Toluene	ND	5.0	ug/L	1.5
1,1,1-Trichloroethane	ND	5.0	ug/L	1.0
1,1,2-Trichloroethane	ND	5.0	ug/L	1.5
Trichloroethene	**210**	**5.0**	**ug/L**	**1.5**
Trichlorofluoromethane	ND	10	ug/L	1.5
Vinyl chloride	ND	10	ug/L	1.5
m-Xylene & p-Xylene	**300**	**5.0**	**ug/L**	**2.5**
o-Xylene	**28**	**5.0**	**ug/L**	**1.0**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	104	(75 - 130)
1,2-Dichloroethane-d4	105	(65 - 135)
Toluene-d8	105	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-04-054

TOTAL Metals

Lot-Sample #...: E2G250367-007 **Matrix.......:** WATER
Date Sampled...: 07/25/02 14:20 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207205						
Cadmium	**0.50**	**0.025**	**mg/L**	**SW846 6010B**	**07/26-07/27/02**	**E5CVX1AC**
		Analysis Time..: 18:20		MS Run #.......: 2207063	MDL............: 0.0030	
Chromium	**32.7**	**0.050**	**mg/L**	**SW846 6010B**	**07/26-07/27/02**	**E5CVX1AD**
		Analysis Time..: 18:20		MS Run #.......: 2207063	MDL............: 0.0050	
Copper	ND G	0.12	mg/L	SW846 6010B	07/26-07/27/02	E5CVX1AE
		Analysis Time..: 18:20		MS Run #.......: 2207063	MDL............: 0.020	

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-04-054

General Chemistry

Lot-Sample #...: E2G250367-007 **Work Order #...:** E5CVX **Matrix.........:** WATER
Date Sampled...: 07/25/02 14:20 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	6.7	0.10	No Units	SW846 9040B	07/25/02	2206513
	Analysis Time..: 17:56		MS Run #.......: 2206231		MDL............: 0.10	
Dissolved Hexavalent Chromium	25.1	1.0	mg/L	SW846 7199	07/25/02	2206514
	Analysis Time..: 21:20		MS Run #.......: 2206239		MDL............: 0.30	

PHIBRO-TECH, INC.

Client Sample ID: PTI-TB-02-054

GC/MS Volatiles

Lot-Sample #...:	E2G250367-008	**Work Order #...:**	E5CV11AA	**Matrix.........:**	WATER
Date Sampled...:	07/25/02 12:00	**Date Received..:**	07/25/02 16:50	**MS Run #.......:**	2207227
Prep Date......:	07/25/02	**Analysis Date..:**	07/25/02		
Prep Batch #...:	2207550	**Analysis Time..:**	19:51		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
Bromodichloromethane	ND	1.0	ug/L	0.30
Bromoform	ND	1.0	ug/L	0.30
Bromomethane	ND	2.0	ug/L	1.0
Carbon tetrachloride	ND	1.0	ug/L	0.30
Chlorobenzene	ND	1.0	ug/L	0.30
Dibromochloromethane	ND	1.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.30
Chloroform	ND	1.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.30
1,2-Dichlorobenzene	ND	1.0	ug/L	0.30
1,3-Dichlorobenzene	ND	1.0	ug/L	0.30
1,4-Dichlorobenzene	ND	1.0	ug/L	0.30
1,1-Dichloroethane	ND	1.0	ug/L	0.20
1,2-Dichloroethane	ND	1.0	ug/L	0.40
1,1-Dichloroethene	ND	1.0	ug/L	0.30
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.30
1,2-Dichloropropane	ND	1.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.30
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.20
Methylene chloride	ND	1.0	ug/L	0.30
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.40
Tetrachloroethene	ND	1.0	ug/L	0.30
Toluene	ND	1.0	ug/L	0.30
1,1,1-Trichloroethane	ND	1.0	ug/L	0.20
1,1,2-Trichloroethane	ND	1.0	ug/L	0.30
Trichloroethene	ND	1.0	ug/L	0.30
Trichlorofluoromethane	ND	2.0	ug/L	0.30
Vinyl chloride	ND	2.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	89	(75 - 130)
1,2-Dichloroethane-d4	100	(65 - 135)
Toluene-d8	99	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-37-054

GC/MS Volatiles

Lot-Sample #...:	E2G250367-009	**Work Order #...:**	E5CV21AA	**Matrix.........:**	WATER
Date Sampled...:	07/25/02 07:15	**Date Received..:**	07/25/02 16:50	**MS Run #.......:**	2207227
Prep Date......:	07/25/02	**Analysis Date..:**	07/26/02		
Prep Batch #...:	2207550	**Analysis Time..:**	03:21		
		Method.........:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	**7.6**	**5.0**	**ug/L**	**1.5**
Bromodichloromethane	ND	5.0	ug/L	1.5
Bromoform	ND	5.0	ug/L	1.5
Bromomethane	ND	10	ug/L	5.0
Carbon tetrachloride	ND	5.0	ug/L	1.5
Chlorobenzene	ND	5.0	ug/L	1.5
Dibromochloromethane	ND	5.0	ug/L	2.0
Chloroethane	ND	10	ug/L	1.5
Chloroform	**18**	**5.0**	**ug/L**	**1.5**
Chloromethane	ND	10	ug/L	1.5
1,2-Dichlorobenzene	ND	5.0	ug/L	1.5
1,3-Dichlorobenzene	ND	5.0	ug/L	1.5
1,4-Dichlorobenzene	ND	5.0	ug/L	1.5
1,1-Dichloroethane	**170**	**5.0**	**ug/L**	**1.0**
1,2-Dichloroethane	**32**	**5.0**	**ug/L**	**2.0**
1,1-Dichloroethene	**110**	**5.0**	**ug/L**	**1.5**
cis-1,2-Dichloroethene	**200**	**5.0**	**ug/L**	**1.5**
trans-1,2-Dichloroethene	ND	5.0	ug/L	1.5
1,2-Dichloropropane	ND	5.0	ug/L	1.5
cis-1,3-Dichloropropene	ND	5.0	ug/L	1.5
trans-1,3-Dichloropropene	ND	5.0	ug/L	2.5
Ethylbenzene	**200**	**5.0**	**ug/L**	**1.0**
Methylene chloride	**84**	**5.0**	**ug/L**	**1.5**
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	2.0
Tetrachloroethene	ND	5.0	ug/L	1.5
Toluene	ND	5.0	ug/L	1.5
1,1,1-Trichloroethane	ND	5.0	ug/L	1.0
1,1,2-Trichloroethane	ND	5.0	ug/L	1.5
Trichloroethene	**210**	**5.0**	**ug/L**	**1.5**
Trichlorofluoromethane	ND	10	ug/L	1.5
Vinyl chloride	ND	10	ug/L	1.5
m-Xylene & p-Xylene	**290**	**5.0**	**ug/L**	**2.5**
o-Xylene	**27**	**5.0**	**ug/L**	**1.0**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	103	(75 - 130)
1,2-Dichloroethane-d4	101	(65 - 135)
Toluene-d8	104	(80 - 130)

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-37-054

TOTAL Metals

Lot-Sample #...: E2G250367-009   Matrix.......: WATER
Date Sampled...: 07/25/02 07:15   Date Received..: 07/25/02 16:50

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2207205						
Cadmium	**0.49**	**0.025**	**mg/L**	**SW846 6010B**	**07/26-07/27/02**	**E5CV21AC**
		Analysis Time..: 18:27		MS Run #.......: 2207063	MDL...........: 0.0030	
Chromium	**29.8**	**0.050**	**mg/L**	**SW846 6010B**	**07/26-07/27/02**	**E5CV21AD**
		Analysis Time..: 18:27		MS Run #.......: 2207063	MDL...........: 0.0050	
Copper	ND G	0.12	mg/L	SW846 6010B	07/26-07/27/02	E5CV21AE
		Analysis Time..: 18:27		MS Run #.......: 2207063	MDL...........: 0.020	

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

PHIBRO-TECH, INC.

Client Sample ID: PTI-MW-37-054

General Chemistry

Lot-Sample #...: E2G250367-009 **Work Order #...:** E5CV2 **Matrix.........:** WATER
Date Sampled...: 07/25/02 07:15 **Date Received..:** 07/25/02 16:50

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH	6.7	0.10	No Units	SW846 9040B	07/25/02	2206513
	Analysis Time..: 17:59		MS Run #.......: 2206231		MDL............: 0.10	
Dissolved Hexavalent Chromium	30.5	1.0	mg/L	SW846 7199	07/25/02	2206514
	Analysis Time..: 21:39		MS Run #.......: 2206239		MDL............: 0.30	

SEVERN TRENT SERVICES

QA/QC

QC DATA ASSOCIATION SUMMARY

E2G250367

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 9040B		2206513	2206231
	WATER	SW846 8260B		2207550	2207227
	WATER	SW846 6010B		2207205	2207063
	WATER	SW846 7199		2206514	2206239
002	WATER	SW846 9040B		2206513	2206231
	WATER	SW846 8260B		2207550	2207227
	WATER	SW846 6010B		2207205	2207063
	WATER	SW846 7199		2206514	2206239
003	WATER	SW846 9040B		2206513	2206231
	WATER	SW846 8260B		2207550	2207227
	WATER	SW846 6010B		2207205	2207063
	WATER	SW846 7199		2206514	2206239
004	WATER	SW846 9040B		2206513	2206231
	WATER	SW846 8260B		2207550	2207227
	WATER	SW846 6010B		2207205	2207063
	WATER	SW846 7199		2206514	2206239
005	WATER	SW846 9040B		2206513	2206231
	WATER	SW846 8260B		2207550	2207227
	WATER	SW846 6010B		2207205	2207063
	WATER	SW846 7199		2206514	2206239
006	WATER	SW846 9040B		2206513	2206231
	WATER	SW846 8260B		2207550	2207227
	WATER	SW846 6010B		2207205	2207063
	WATER	SW846 7199		2206514	2206239
007	WATER	SW846 9040B		2206513	2206231
	WATER	SW846 8260B		2207550	2207227
	WATER	SW846 6010B		2207205	2207063
	WATER	SW846 7199		2206514	2206239
008	WATER	SW846 8260B		2207550	2207227
009	WATER	SW846 9040B		2206513	2206231
	WATER	SW846 8260B		2207550	2207227
	WATER	SW846 6010B		2207205	2207063
	WATER	SW846 7199		2206514	2206239

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E2G250367 **Work Order #...:** E5FP11AA **Matrix.........:** WATER
MB Lot-Sample #: E2G260000-550
Prep Date......: 07/25/02 **Analysis Time..:** 18:40
Analysis Date..: 07/25/02 **Prep Batch #...:** 2207550

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	2.0	ug/L	SW846 8260B
Vinyl chloride	ND	2.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	95	(75 - 130)
1,2-Dichloroethane-d4	105	(65 - 135)
Toluene-d8	105	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: E2G250367 **Matrix.........:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: E2G260000-205 **Prep Batch #...:** 2207205						
Cadmium	ND	0.0050	mg/L	SW846 6010B	07/26/02	E5DM91AH
		Analysis Time..: 19:32				
Chromium	ND	0.010	mg/L	SW846 6010B	07/26/02	E5DM91AK
		Analysis Time..: 19:32				
Copper	ND	0.025	mg/L	SW846 6010B	07/26/02	E5DM91AL
		Analysis Time..: 19:32				

NOTE(S):

Calculations are performed before rounding tc avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: E2G250367 **Matrix.........:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: E5C6X1AA		MB Lot-Sample #:	E2G250000-514	
	ND	0.0010	mg/L	SW846 7199	07/25/02	2206514
		Analysis Time..: 18:49				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2G250367 **Work Order #...:** E5FP11AC **Matrix.........:** WATER
LCS Lot-Sample#: E2G260000-550
Prep Date......: 07/25/02 **Analysis Date..:** 07/25/02
Prep Batch #...: 2207550 **Analysis Time..:** 18:17

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**103**	**(75 - 120)**	**SW846 8260B**
Chlorobenzene	**89**	**(75 - 120)**	**SW846 8260B**
1,1-Dichloroethene	**134**	**(70 - 140)**	**SW846 8260B**
Toluene	**99**	**(75 - 125)**	**SW846 8260B**
Trichloroethene	**102**	**(70 - 130)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	100	(75 - 130)
1,2-Dichloroethane-d4	93	(65 - 135)
Toluene-d8	112	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2G250367 **Work Order #...:** E5FP11AC **Matrix.........:** WATER
LCS Lot-Sample#: E2G260000-550
Prep Date......: 07/25/02 **Analysis Date..:** 07/25/02
Prep Batch #...: 2207550 **Analysis Time..:** 18:17

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	**10.0**	**10.3**	**ug/L**	**103**	**SW846 8260B**
Chlorobenzene	**10.0**	**8.89**	**ug/L**	**89**	**SW846 8260B**
1,1-Dichloroethene	**10.0**	**13.4**	**ug/L**	**134**	**SW846 8260B**
Toluene	**10.0**	**9.88**	**ug/L**	**99**	**SW846 8260B**
Trichloroethene	**10.0**	**10.2**	**ug/L**	**102**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	100	(75 - 130)
1,2-Dichloroethane-d4	93	(65 - 135)
Toluene-d8	112	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: E2G250367 **Matrix.........:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: E2G260000-205 **Prep Batch #...:** 2207205					
Cadmium	97	(80 - 120)	SW846 6010B	07/26/02	E5DM91A9
		Analysis Time..: 19:38			
Chromium	101	(85 - 120)	SW846 6010B	07/26/02	E5DM91CC
		Analysis Time..: 19:38			
Copper	101	(80 - 120)	SW846 6010B	07/26/02	E5DM91CD
		Analysis Time..: 19:38			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E2G250367 **Matrix.........:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: E2G260000-205 **Prep Batch #...:** 2207205							
Cadmium	0.0500	0.0486	mg/L	97	SW846 6010B	07/26/02	E5DM91A9
			Analysis Time..: 19:38				
Chromium	0.200	0.202	mg/L	101	SW846 6010B	07/26/02	E5DM91CC
			Analysis Time..: 19:38				
Copper	0.250	0.252	mg/L	101	SW846 6010B	07/26/02	E5DM91CD
			Analysis Time..: 19:38				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G250367 **Matrix.........:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH		Work Order #: E5CX01AA LCS Lot-Sample#: E2G250000-513			
	100	(90 - 110)	SW846 9040B	07/25/02	2206513
		Analysis Time..: 17:32			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E2G250367 **Matrix.........:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH			Work Order #: E5CX01AA	LCS Lot-Sample#: E2G250000-513			
	9.18	9.18	No Units	100	SW846 9040B	07/25/02	2206513
			Analysis Time..: 17:32				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G250367 **Matrix.........:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: E5C6X1AC	LCS Lot-Sample#: E2G250000-514		
	106	(90 - 110)	SW846 7199	07/25/02	2206514
		Analysis Time..: 18:39			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E2G250367 **Matrix.........:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium	Work Order #: E5C6X1AC	LCS Lot-Sample#: E2G250000-514					
	0.0200	0.0212	mg/L	106	SW846 7199	07/25/02	2206514
		Analysis Time..: 18:39					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2G250367 **Work Order #...:** E5AF91AD-MS **Matrix.........:** WATER
MS Lot-Sample #: E2G250204-001 E5AF91AE-MSD
Date Sampled...: 07/22/02 18:10 **Date Received..:** 07/25/02 09:30 **MS Run #.......:** 2207227
Prep Date......: 07/25/02 **Analysis Date..:** 07/26/02
Prep Batch #...: 2207550 **Analysis Time..:** 03:44

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**113**	**(75 - 120)**			**SW846 8260B**
	111	**(75 - 120)**	**1.9**	**(0-25)**	**SW846 8260B**
Chlorobenzene	**97**	**(75 - 120)**			**SW846 8260B**
	92	**(75 - 120)**	**5.3**	**(0-25)**	**SW846 8260B**
1,1-Dichloroethene	**138**	**(70 - 140)**			**SW846 8260B**
	140	**(70 - 140)**	**1.5**	**(0-25)**	**SW846 8260B**
Toluene	**107**	**(75 - 125)**			**SW846 8260B**
	101	**(75 - 125)**	**5.5**	**(0-25)**	**SW846 8260B**
Trichloroethene	**111**	**(70 - 130)**			**SW846 8260B**
	108	**(70 - 130)**	**3.0**	**(0-25)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	105	(75 - 130)
	100	(75 - 130)
1,2-Dichloroethane-d4	102	(65 - 135)
	101	(65 - 135)
Toluene-d8	114	(80 - 130)
	105	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2G250367 **Work Order #...:** E5AF91AD-MS **Matrix.........:** WATER
MS Lot-Sample #: E2G250204-001 E5AF91AE-MSD
Date Sampled...: 07/22/02 18:10 **Date Received..:** 07/25/02 09:30 **MS Run #.......:** 2207227
Prep Date......: 07/25/02 **Analysis Date..:** 07/26/02
Prep Batch #...: 2207550 **Analysis Time..:** 03:44

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	**ND**	**10.0**	**11.3**	**ug/L**	**113**		**SW846 8260B**
	ND	**10.0**	**11.1**	**ug/L**	**111**	**1.9**	**SW846 8260B**
Cblorobenzene	**ND**	**10.0**	**9.72**	**ug/L**	**97**		**SW846 8260B**
	ND	**10.0**	**9.22**	**ug/L**	**92**	**5.3**	**SW846 8260B**
1,1-Dichloroethene	**ND**	**10.0**	**13.8**	**ug/L**	**138**		**SW846 8260B**
	ND	**10.0**	**14.0**	**ug/L**	**140**	**1.5**	**SW846 8260B**
Toluene	**ND**	**10.0**	**10.7**	**ug/L**	**107**		**SW846 8260B**
	ND	**10.0**	**10.1**	**ug/L**	**101**	**5.5**	**SW846 8260B**
Trichloroethene	**ND**	**10.0**	**11.1**	**ug/L**	**111**		**SW846 8260B**
	ND	**10.0**	**10.8**	**ug/L**	**108**	**3.0**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	105	(75 - 130)
	100	(75 - 130)
1,2-Dichloroethane-d4	102	(65 - 135)
	101	(65 - 135)
Toluene-d8	114	(80 - 130)
	105	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: E2G250367 **Matrix.........:** WATER
Date Sampled...: 07/23/02 17:40 **Date Received..:** 07/25/02 20:40

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: E2G250407-005 **Prep Batch #...:** 2207205							
Cadmium	95	(80 - 120)			SW846 6010B	07/26/02	E5C681D3
	95	(80 - 120)	0.08	(0-20)	SW846 6010B	07/26/02	E5C681D4
		Analysis Time..: 21:33					
		MS Run #.......: 2207063					
Chromium	96	(85 - 120)			SW846 6010B	07/26/02	E5C681D7
	98	(85 - 120)	1.7	(0-20)	SW846 6010B	07/26/02	E5C681D8
		Analysis Time..: 21:33					
		MS Run #.......: 2207063					
Copper	109	(80 - 120)			SW846 6010B	07/26/02	E5C681D9
	117	(80 - 120)	5.5	(0-20)	SW846 6010B	07/26/02	E5C681EA
		Analysis Time..: 21:33					
		MS Run #.......: 2207063					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E2G250367 **Matrix.........:** WATER
Date Sampled...: 07/23/02 17:40 **Date Received..:** 07/25/02 20:40

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: E2G250407-005 **Prep Batch #...:** 2207205									
Cadmium									
	ND	0.0500	0.0474	mg/L	95		SW846 6010B	07/26/02	E5C681D3
	ND	0.0500	0.0474	mg/L	95	0.08	SW846 6010B	07/26/02	E5C681D4
			Analysis Time..: 21:33						
			MS Run #.......: 2207063						
Chromium									
	ND	0.200	0.198	mg/L	96		SW846 6010B	07/26/02	E5C681D7
	ND	0.200	0.202	mg/L	98	1.7	SW846 6010B	07/26/02	E5C681D8
			Analysis Time..: 21:33						
			MS Run #.......: 2207063						
Copper									
	0.045	0.250	0.319	mg/L	109		SW846 6010B	07/26/02	E5C681D9
	0.045	0.250	0.337	mg/L	117	5.5	SW846 6010B	07/26/02	E5C681EA
			Analysis Time..: 21:33						
			MS Run #.......: 2207063						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G250367 **Matrix.........:** WATER
Date Sampled...: 07/25/02 08:20 **Date Received..:** 07/25/02 16:50

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #...: E5CT91AJ		MS Lot-Sample #:	E2G250367-001
	96	(80 - 120)	SW846 7199	07/25/02	2206514
		Analysis Time..: 18:58			
		MS Run #.......: 2206239			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E2G250367 **Matrix.........:** WATER
Date Sampled...: 07/25/02 08:20 **Date Received..:** 07/25/02 16:50

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #...: E5CT91AJ			MS Lot-Sample #: E2G250367-001		
	0.0047	0.020	0.0239	mg/L	96	SW846 7199	07/25/02	2206514
			Analysis Time..: 18:58					
			MS Run #.......: 2206239					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G250367 **Work Order #...:** E5CT9-SMP E5CT9-DUP **Matrix.......:** WATER

Date Sampled...: 07/25/02 08:20 **Date Received..:** 07/25/02 16:50

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH						SD Lot-Sample #: E2G250367-001		
	7.6	7.6	No Units	0.24	(0-10)	SW846 9040B	07/25/02	2206513

Analysis Time..: 17:35 MS Run Number..: 2206231

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: E2G250367 **Work Order #...:** E5CT9-SMP E5CT9-DUP **Matrix.......:** WATER

Date Sampled...: 07/25/02 08:20 **Date Received..:** 07/25/02 16:50

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium					SD Lot-Sample #: E2G250367-001		
0.0047	0.0048	mg/L	0.89	(0-20)	SW846 7199	07/25/02	2206514

Analysis Time..: 18:58 MS Run Number..: 2206239

Appendix D
Completed COC Forms

CDM

Chain of Custody Record

SEVERN TRENT SERVICES — **Severn Trent Laboratories, Inc.**

STL-4124 (0901)

000002

Client: CDM	Project Manager: SHARON WALLIN	Date: 7/24/02	Chain of Custody Number: 143216
Address:	Telephone Number (Area Code)/Fax Number: 949 752 5452	Lab Number: E2G240 329	Page 1 of 1
City: IRVINE · State: · Zip Code:	Site Contact: · Lab Contact: DIANE SUZUKI	Analysis (Attach list if more space is needed)	
Project Name and Location (State): PHIBROTECH (CA)	Carrier/Waybill Number:		Special Instructions/ Conditions of Receipt
Contract/Purchase Order/Quote No.: 2279-11462-111.~~FLD~~-FIEL			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil		Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		EPA 8260	EPA 7199-Cr(VI)	Cr-Cu-Cd	pH	Special Instructions/ Conditions of Receipt
PTI-MW-01S-054	7/24/02	1140						2		1	3				X	X	X	X	
PTI-MW-01D-054	↓	1340						2		1	3				X	X	X	X	
PTI-EB-01-054	↓	1405						2		1	3				X	X	X	X	
PTI-MW-03-054	↓	1500						2		1	3				X	X	X	X	
PTI-MW-15S-054	↓	1620						2		1	3				X	X	X	X	
PTI-TB-01-054	↓	1200									3				X				

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☒ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other____ STANDARD TAT

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: [signature]			1. Received By: H. Bouvet	7-24-02	16:30
2. Relinquished By: H. Bouvet	7-24-02	17:35	2. Received By: [signature]	7-24-02	17:35
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

000002

Chain of Custody Record

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: CDM	Project Manager: SHARON WALLIN	Date: 7/25/02	Chain of Custody Number: 143217
Address:	Telephone Number (Area Code)/Fax Number: 949 752 5452	Lab Number: E2G250367	Page 1 of 1
City: IRVINE · State: CA · Zip Code:	Site Contact: JOHN BENNETT · Lab Contact: DIANE SUZUKI		
Project Name and Location (State): PTI BIOTECH (CA)	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Matrix · Containers & Preservatives · Analysis (Attach list if more space is needed) · Special Instructions/Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	EPA 8260	EPA 7199 [Cr(VI)]	EPA 6010B (Cr-Cu-Cd)	pH	Special Instructions/Conditions of Receipt
PTI-MW-15D-054	7/25/02	0820		X			2		1	3			X	X	X	X	
PTI-MW-06D-054	↓	0935		X			↓		↓	↓			X	X	X	X	
PTI-MW-06B-054		1055		X									X	X	X	X	
PTI-MW-14S-054		1200		X									X	X	X	X	
PTI-MW-04A-054	↓	1312		X			↓		↓	↓			X	X	X	X	
~~PTI-MW PTI-MW~~																	
PTI-EB-02-054	↓	1320		X			↓		↓	↓			X	X	X	X	
PTI-MW-04-054	↓	1420		X			↓		↓	↓			X	X	X	X	
PTI-TB-02-054	↓	1200		X						3			X				
PTI-MW-37-054	↓	0715		X			2		1	3			X	X	X	X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required STANDARD TAT
☐ 24 Hours ☐ 48 Hours ☒ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other______

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: [signature]	7/25/02	1545	1. Received By: [signature]	7-25-02	15:45
2. Relinquished By: [signature]	7-25-02	~~17:30~~ 16:50	2. Received By: [signature]	7-25-02	~~17:50~~ 16:50
3. Relinquished By:			3. Received By:		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

[redacted]

Chain of Custody Record

STL-4124 (0901)

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

000003

Client	CDM
Project Manager	SHARON WALLIN
Date	7/26/02
Chain of Custody Number	143218
Address	
Telephone Number (Area Code)/Fax Number	949 752 5452
Lab Number	E2G260291
Page	1 of 1
City	IRVINE
State	CA
Zip Code	
Site Contact	John Bennett
Lab Contact	Diane Suzuki
Project Name and Location (State)	PTI Brotoch
Carrier/Waybill Number	
Contract/Purchase Order/Quote No.	2279-11462-111. FED. FLE

Analysis (Attach list if more space is needed): EPA 8260; EPA 7199 [Cr(VI)]; EPA 6010 (Cr-Cu-Cd); pH

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil		Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	EPA 8260	EPA 7199 [Cr(VI)]	EPA 6010 (Cr-Cu-Cd)	pH
PTI-MW-09-054	7/26/02	0810		X				2		1	3			X	X	X	X
PTI-MW-39-054		0730		X				2		1	3			X	X	X	X
PTI-DI-054		0850		X				2		1	3			X	X	X	X
PTI-MW-16-054		0900		X				2		1	3			X	X	X	X
PTI-EB-03-054		0915		X				2		1	3			X	X	X	X
PTI-MW-07-054		1040		X				2		1	3			X	X	X	X
PTI-MW-11-054		1200		X				2		1	3			X	X	X	X
PTI-TB-03-054		1200		X							3			X			

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☒ 7 Days STANDARD TAT ☐ 14 Days ☐ 21 Days ☐ Other____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: [signature]	7/26/02	1330	1. Received By: [signature]	7.26.02	13:30
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Appendix E
Background Groundwater Concentrations

CITY OF SANTA FE SPRINGS 2001 ANNUAL WATER QUALITY REPORT

Results are from the most recent testing performed in accordance with state and federal drinking water regulations

PRIMARY STANDARDS MONITORED AT THE SOURCE-MANDATED FOR PUBLIC HEALTH

	GROUNDWATER		SURFACE WATER		PRIMARY	MCLG	MAJOR SOURCES IN DRINKING WATER
	AVERAGE	RANGE	AVERAGE	RANGE	MCL	or PHG	
ORGANIC CHEMICALS (µg/l)							
Toluene	ND	ND	ND	ND-4.0	150	150	Discharge from petroleum and chemical refineries
Trichloroethylene-TCE	0.7	ND-1.6	ND	ND	5	0.8 (c)	Discharge from metal degreasing sites and other factories
INORGANICS Sampled from 1999 to 2001(d)							
Aluminum (mg/l)	ND	ND	0.14	ND-0.24	1	0.6 (c)	Erosion of natural deposits, surface water treatment process residue
Arsenic (µg/l)	5.5 (h)	ND-11	ND	ND-2.4	50	-	Erosion of natural deposits, glass and electronics production wastes
Fluoride (mg/l)	0.30	0.27-0.33	0.22	0.18-0.27	2	1 (c)	Erosion of natural deposits, water additive that promotes strong teeth
Nitrate (mg/l as N)	0.88	ND-1.75	ND	ND-0.59	10	10 (c)	Leaking from septic tanks and sewage; erosion of natural deposits
RADIOLOGICAL - pCi/l Analyzed 4 consecutive quarters every 4 years (results are from 1998 to 2001) (d)							
Gross Alpha (f)	2.4	ND-6.3	4.1	1.2-6.3	15 (g)	-	Erosion of natural deposits
Gross Beta	NA	NA	5.4	ND-7.8	50 (g)	-	Decay of natural and man-made deposits
Combined Radium 226/228	NA	NA	ND	ND-1.5	5	-	Erosion of natural deposits
Uranium	4.8	4.0-5.5	2.9	ND-4.0	20 (g)	0.5 (c)	Erosion of natural deposits

MONITORED IN THE DISTRIBUTION SYSTEM

	GROUNDWATER		SURFACE WATER		PRIMARY	MCLG	
	AVERAGE	RANGE	%<0.5	MAXIMUM	MCL	or PHG	
Turbidity (ntu)	0.1	0.1-0.5	100%	0.2	TT	-	Soil runoff

	GROUNDWATER		SURFACE WATER		PRIMARY	MCLG	
	AVERAGE	RANGE	AVERAGE	RANGE	MCL	or PHG	
Total Coliform Bacteria % Positive	0%	0%	0.06%	0-0.46%	5%	0%	Naturally present in the environment
Fecal Coliform Bacteria % Positive	0%	0%	0%	0%	0%	0%	Human and animal fecal waste
No. of Acute Violations	0	0	0	0			
Trihalomethanes-TTHMS (µg/l) (a)	39	ND-83	54	36-69	100	0	By-product of drinking water chlorination

	GROUNDWATER		SURFACE WATER		SECONDARY	MCLG	
	AVERAGE	RANGE	AVERAGE	RANGE	MCL	or PHG	
Color (color units)	<3	<3	1	1-2	15	-	Naturally-occurring organic materials
Odor (threshold odor number)	1	1-2	(e)	(e)	3	-	Naturally-occurring organic materials

	GROUNDWATER		SURFACE WATER		PRIMARY	MCLG	
	90%ile	#SITES ABOVE AL	90%ile	#SITES ABOVE AL	MCL	or PHG	
AT THE TAP 30 sites sampled in 2001							
Copper (mg/l)	0.16 (b)	0	ND	0	1.3 AL	0.17 (c)	Corrosion of household plumbing
Lead (µg/l)	ND (b)	0	ND	0	15 AL	2 (c)	Corrosion of household plumbing

SECONDARY STANDARDS MONITORED AT THE SOURCE-FOR AESTHETIC PURPOSES

	GROUNDWATER		SURFACE WATER		SECONDARY	MCLG	
	AVERAGE	RANGE	AVERAGE	RANGE	MCL	or PHG	
Chloride (mg/l)	50	34-66	79	72-83	500	-	Erosion of natural deposits, seawater influence
Conductivity (umhos/cm)	655	470-840	832	779-884	1600	-	Seawater influence, dissolved minerals
Sulfate (mg/l)	112	54-170	176	155-194	500	-	Erosion of natural deposits
Total Dissolved Solids (mg/l)	399	262-535	499	464-530	1000	-	Erosion of natural deposits
Manganese (µg/l)	ND	ND-26	ND	ND	50	-	Erosion of natural deposits

ADDITIONAL CHEMICALS OF INTEREST

	GROUNDWATER		SURFACE WATER	
	AVERAGE	RANGE	AVERAGE	RANGE
pH (std unit)	7.8	7.6-8.0	8.1	8.0-8.1
Total Hardness (mg/l)	221	105-337	236	216-255
Calcium (mg/l)	67	34-99	58	51-61
Magnesium (mg/l)	13	4-22	24	21-25
Sodium (mg/l)	60	53-67	79	74-83
Potassium (mg/l)	2.9	2.2-3.6	3.9	3.5-4.2
Perchlorate (µg/l)	ND	ND	4	ND-5
Haloacetic Acids (µg/l)	NA	NA	19	9.5-24
Haloacetonitriles (µg/l)	NA	NA	7.7	4.8-13
Chloropicrin (µg/l)	NA	NA	ND	ND
Haloketones (µg/l)	NA	NA	1.6	0.7-3.2
Chloral hydrate (µg/l)	NA	NA	4.0	1.5-6.8
Total Organic Halogens (TOX) (µg/l)	NA	NA	115	72-174
Cyanogen chloride (µg/l)	NA	NA	1.8	ND-3.1
Radon (pCi/l)	268	189-371	ND	ND
Hexavalent chromium (µg/l)	2.7	2.7	ND	ND
Total chromium screen (µg/l)	1.6	ND-3.2	NA	NA
Boron (µg/l)	77	ND-120	130	120-130
Vanadium (µg/l)	3.5	ND-5.4	4.0	3-4

FOOTNOTES

(a) Average and range calculated by running average.
(b) 90th percentile from the most recent sampling at selected customer taps.
(c) California Public Health Goal (PHG). Other advisory levels listed in this column are federal Maximum Contaminant Level Goals (MCLGs).
(d) Indicates dates sampled for groundwater sources only.
(e) Metropolitan Water District (MWD) of Southern California uses a flavor-profile test that more accurately detects odors. For more information, contact MWD at (213) 217-6850.
(f) Gross alpha standard also includes Radium-226 standard.
(g) MCL compliance based on 4 consecutive quarters of sampling. MCL standard is for combined Radium 226 plus 228.
(h) While your drinking water meets the current standard for arsenic, it does contain low levels of arsenic. The standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The California Department of Health Services continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

ABBREVIATIONS

mg/l = milligrams per liter or parts per million (equivalent to 3 drops in 42 gallons)
µg/l = micrograms per liter or parts per billion (equivalent to 1 drop in 42,000 gallons)
< = less than
umhos/cm = micromhos per centimeter
ND = constituent not detected at the reporting limit
NA = constituent not analyzed
pCi/l = picoCuries per liter

DEFINITIONS

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Public Health Goal or PHG: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

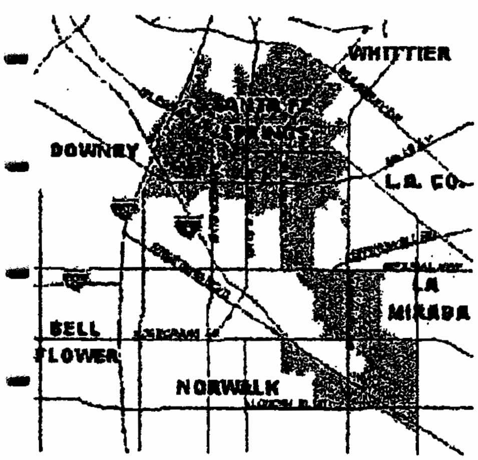
Primary Drinking Water Standard or PDWS: MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Special note on Radon: *Radon is a radioactive gas that you cannot taste, see or smell, and is a known human carcinogen. It is found throughout the country. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering and other household activities. Radon entering the home through tap water is a small source compared to radon entering the home through soil. If you are concerned about radon in your home, an easy and inexpensive test can show you how much radon is in your home's indoor air. There are simple and inexpensive ways to fix your home if the level of radon in air is 4 picoCuries per liter (pCi/L) of air or higher. For additional information, call your State radon program or call EPA's Radon Hotline (800-SOS-RADON).*

CITY OF SANTA FE SPRINGS
2001 ANNUAL WATER QUALITY REPORT

Since 1991, California water utilities have been providing information on water served to its consumers. This report is a snapshot of the tap water quality that we provided last year. Included are details about where your water comes from, how it is tested, what is in it, and how it compares with state and federal limits. Although a lot of the information in this report is detailed and technical, we have made every effort to keep it readable. We strive to keep you informed about the quality of your water, and to provide a reliable and economic supply that meets all requirements. **We are happy to report that your tap water meets or surpasses all water quality standards for 2001.**

Where Does My Tap Water Come From?



Your tap water comes from 2 sources: groundwater and surface water. We pump groundwater from local, deep wells. We also use Metropolitan Water District of Southern California's surface water from both the Colorado River and the State Water Project in northern California. These water sources supply our service area shown on the adjacent map. The quality of our groundwater and Metropolitan Water District's surface water supplies is presented in this report.

How is My Drinking Water Tested?

Your drinking water is tested regularly for unsafe levels of chemicals, radioactivity and bacteria at the source and in the distribution system. We test weekly, monthly, quarterly, annually or less often depending on the substance. State and federal laws allow us to test some substances less than once per year because their levels do not change frequently. All water quality tests are conducted by specially trained technicians in state-certified laboratories.

What Are Drinking Water Standards?

The federal Environmental Protection Agency (EPA) limits the amount of certain substances in tap water. In California, the Department of Health Services (DHS) regulates tap water quality by enforcing limits that are at least as stringent as the Federal EPA's. Historically, California limits are more stringent than the Federal counterparts.

There are two types of limits, known as standards. Primary standards protect you from substances that could potentially affect your health. Secondary standards regulate substances that affect the aesthetic qualities of water. Regulations set a Maximum Contaminant Level (MCL) for each of the primary and secondary standards. The MCL is the highest level of a substance that is allowed in drinking water. Water suppliers must not exceed MCLs to ensure water quality.

Public Health Goals (PHGs) are set by the California Environmental Protection Agency. PHGs provide more information on the quality of drinking water to customers, and are similar to their federal counterparts, Maximum Contaminant Level Goals (MCLGs). PHGs and MCLGs are levels that are of an advisory nature only and nonenforceable. Both PHGs and MCLGs are concentrations of a substance at which there are no known or expected health risks.

How Do I Read the Water Quality Table?

Although we test for over 100 substances, regulations require us to report only those found in your water. The first column of the water quality table lists substances detected in your water. The next columns list the average concentration and range of concentrations found in your drinking water. Following are columns that list the MCL and PHG or MCLG, if appropriate. The last column describes the likely sources of substances in drinking water.

To review the quality of your drinking water, compare the highest concentration and the MCL. Check for substances greater than the MCL. Exceedence of a primary MCL does not usually constitute an immediate health threat. Rather, it requires testing the source water more frequently for a short duration. If test results show that the water continues to exceed the MCL, the water must be treated to remove the substance, or the source must be removed from service.

...ny Do I See So Much Coverage in the News About the Quality Of Tap Water?

" drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. ... water travels over the surface of the land or through the ground, it can pick up substances resulting from the presence of ...nimals or from human activity. The presence of contaminants does not necessarily indicate that water poses a health risk. More ...formation about contaminants and potential health effects can be obtained by calling the federal EPA's Safe Drinking Water ...tline (800-426-4791). **You can get more information on tap water by logging on to these helpful web sites:**

www.epa.gov/OGWDW **(Federal EPA's web site)**
www.dhs.cahwnet.gov/ps/ddwem **(California DHS website)**

...hat Does the EPA Say About Drinking Water Quality?

...e sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and ...ells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some ...es, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

...ontaminants that may be present in source water include:

- Microbial contaminants, including viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming;
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems;
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

...rder to ensure that tap water is safe to drink, the EPA and the California Department of Health Services (DHS) prescribe ...gulations that limit the amount of certain contaminants in water provided by public water systems. DHS regulations also ...tablish limits for contaminants in bottled water that must provide the same protection for public health.

...ould I Take Additional Precautions?

...e people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised ...sons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with ...V/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people ...uld seek advice about drinking water from their health care providers. The EPA/Centers for Disease Control guidelines on ...ropriate means to lessen the risk of infection of *Cryptosporidium* and other microbial contaminants are available from the ...deral **EPA's Safe Drinking Water Hotline (800-426-4791).**

...w Can I Participate in Decisions On Water Issues That Affect Me?

...e public is welcome to attend City Council meetings on the second and fourth Thursday of each month at 7 p.m.

...w Do I Contact My Water Agency If I Have Any Questions About Water Quality?

...u have specific questions about your tap water quality, please contact Ron Hughes at (562) 868-0511

...ow Can I Conserve Water At Home?

- **Install a Low-flow Showerhead - save over 5 gallons of water per shower, or about 1,800 gallons per year per person!**
- **Install a low-flow toilet or water displacement device in your toilet - save 3.5 to 4.5 gallons on every flush!**
- **Run only full loads in your dishwasher/washing machine - save 300 - 800 gallons of water every month!**
- **Sweep your sidewalks and driveway - save 150 gallons each time by sweeping instead of hosing!**
- **Water the lawn only when it needs it - save 30-50 gallons per day!**

Visit us at www.santafesprings.com

Appendix F
Statistical Analysis

CDM

Appendix F-1
Calculation of Upper Tolerance Limits for Background

CDM

SUMMARY OF UPPER TOLERANCE LEVEL CALCULATIONS

Quarterly Background Data: January 1989 to July 2002

Southern California Chemical

POISSON DISTRIBUTED UPPER TOLERANCE LEVEL

COMPOUND	Hexa Chromiur	Total Chromiur	Cadmium	Copper	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Trichloroethene
Percent Detected	5.7%	7.5%	1.9%	20.8%	1.9%	7.5%	24.5%	26.4%	NOT
Sample number(n)	53	53	53	53	53	53	53	53	CALC.
Tn	0.5940	0.4411	0.1459	0.7618	18.1550	30.6050	45.2050	78.9550	
2Tn+2	3.19	2.88	2.29	3.52	38.31	63.21	92.41	159.91	
Chi Squared @95% of dis	7.81	5.99	5.99	7.81	53.38	82.53	115.39	189.42	
lamda Tn	0.235	0.163	0.130	0.260	19.294	49.214	100.596	285.762	
Two time Lamda Tn	0.470	0.326	0.259	0.520	38.587	98.427	201.192	571.525	
Beta cov. @95%, deg fr.	4	3	3	4	55	124	236	629	
k, from 2k+2 deg fr.	1.00	0.50	0.50	1.00	26.50	61.00	117.00	313.50	

AITCHISON ADJUSTMENT AND CALCULATION OF UPPER TOLERANCE LEVELS

Number of ND(d)	NOT	49	NOT	42	NOT	49	40	39	NO ADJ. REQ.
Number of values(n)	CALC.	53	CALC.	53	CALC.	53	53	53	
Mean of det values		0.0475		0.029		1.650	1.977	4.050	
STD of det values		0.041		0.010		0.420	0.738	1.435	
Atch. Adj. mean/mean(1)		0.004		0.006		0.125	0.485	1.070	11.570
Atch. Adj. std./std. (1)		0.016		0.013		0.451	0.929	1.940	5.104
K for Tolerance Limit		2.353		1.812		2.353	1.782	1.771	1.675
Adjusted Tol. Limit		0.041		0.029		1.187	2.141	4.506	
Unadjusted Tol. Limit									20.118

(1) Unadjusted mean and std. used to compute upper tolerance level for TCE

Appendix F-2
Nonparametric Kruskal-Wallis Mann-Whitney U Test Results

CDM

IMPORT successfully completed.

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-11.syd,
created Sun Sep 22, 2002 at 22:19:04, contains variables:

WELL$	PARAM_ID$	VALUE	LN_VALUE	HD_VALUE	HD_LN_VALU

The following results are for:
PARAM_ID$ = BEN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-11, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-11	53	3433.000
MW-1S	53	2238.000

Mann-Whitney U test statistic = 2002.000
Probability is 0.000
Chi-square approximation = 15.872 with 1 df

The following results are for:
PARAM_ID$ = CD

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-11, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-11	53	2785.500
MW-1S	53	2885.500

Mann-Whitney U test statistic = 1354.500
Probability is 0.629
Chi-square approximation = 0.234 with 1 df

The following results are for:
PARAM_ID$ = CU

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-11, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group Count Rank Sum

MW-11 53 2912.000
MW-1S 53 2759.000
Mann-Whitney U test statistic = 1481.000
Probability is 0.597
Chi-square approximation = 0.280 with 1 df

The following results are for:
PARAM_ID$ = EBN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-11, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-11	53	4155.500
MW-1S	53	1515.500

Mann-Whitney U test statistic = 2724.500
Probability is 0.000
Chi-square approximation = 72.660 with 1 df

The following results are for:
PARAM_ID$ = HCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-11, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-11	53	2788.500
MW-1S	53	2882.500

Mann-Whitney U test statistic = 1357.500
Probability is 0.708
Chi-square approximation = 0.140 with 1 df

The following results are for:
PARAM_ID$ = TCE

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-11, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-11	53	4134.000
MW-1S	53	1537.000

Mann-Whitney U test statistic = 2703.000
Probability is 0.000
Chi-square approximation = 67.346 with 1 df

The following results are for:

PARAM_ID$ = TCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-11, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-11	53	2855.000
MW-1S	53	2816.000

Mann-Whitney U test statistic = 1424.000
Probability is 0.854
Chi-square approximation = 0.034 with 1 df

The following results are for:
PARAM_ID$ = TOL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-11, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 104 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-11	52	3760.500
MW-1S	52	1699.500

Mann-Whitney U test statistic = 2382.500
Probability is 0.000
Chi-square approximation = 49.800 with 1 df

The following results are for:
PARAM_ID$ = TX

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-11, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 102 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-11	51	3610.500
MW-1S	51	1642.500

Mann-Whitney U test statistic = 2284.500
Probability is 0.000
Chi-square approximation = 45.046 with 1 df

The following results are for:
PARAM_ID$ = TXL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-11, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 4 cases
Dependent variable is VALUE

Grouping variable is WELL$

Group	Count	Rank Sum
MW-11	2	7.000
MW-1S	2	3.000

Mann-Whitney U test statistic = 4.000
Probability is 0.121
Chi-square approximation = 2.400 with 1 df

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-14s.syd,
created Sun Sep 22, 2002 at 22:19:06, contains variables:

WELL$	PARAM_ID$	VALUE	LN_VALUE	HD_VALUE	HD_LN_VALU

The following results are for:
PARAM_ID$ = BEN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 98 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-14S	45	2643.500
MW-1S	53	2207.500

Mann-Whitney U test statistic = 1608.500
Probability is 0.001
Chi-square approximation = 10.630 with 1 df

The following results are for:
PARAM_ID$ = CD

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 98 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-14S	45	2298.500
MW-1S	53	2552.500

Mann-Whitney U test statistic = 1263.500
Probability is 0.419
Chi-square approximation = 0.653 with 1 df

The following results are for:
PARAM_ID$ = CU

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 98 cases

Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-14S	45	2657.000
MW-1S	53	2194.000

Mann-Whitney U test statistic = 1622.000
Probability is 0.001
Chi-square approximation = 10.581 with 1 df

The following results are for:
PARAM_ID$ = EBN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 98 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-14S	45	3081.500
MW-1S	53	1769.500

Mann-Whitney U test statistic = 2046.500
Probability is 0.000
Chi-square approximation = 40.494 with 1 df

The following results are for:
PARAM_ID$ = HCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 99 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-14S	46	2720.000
MW-1S	53	2230.000

Mann-Whitney U test statistic = 1639.000
Probability is 0.001
Chi-square approximation = 10.376 with 1 df

The following results are for:
PARAM_ID$ = TCE

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 98 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-14S	45	3385.000
MW-1S	53	1466.000

Mann-Whitney U test statistic = 2350.000

Probability is 0.000
Chi-square approximation = 68.133 with 1 df

The following results are for:
PARAM_ID$ = TCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 98 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-14S	45	3137.000
MW-1S	53	1714.000

Mann-Whitney U test statistic = 2102.000
Probability is 0.000
Chi-square approximation = 51.069 with 1 df

The following results are for:
PARAM_ID$ = TOL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 96 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-14S	44	2637.500
MW-1S	52	2018.500

Mann-Whitney U test statistic = 1647.500
Probability is 0.000
Chi-square approximation = 19.117 with 1 df

The following results are for:
PARAM_ID$ = TX

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 94 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-14S	43	2509.500
MW-1S	51	1955.500

Mann-Whitney U test statistic = 1563.500
Probability is 0.000
Chi-square approximation = 14.009 with 1 df

The following results are for:
PARAM_ID$ = TXL

Categorical values encountered during processing are:
WELL$ (2 levels)

MW-14S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 4 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-14S	2	7.000
MW-1S	2	3.000

Mann-Whitney U test statistic = 4.000
Probability is 0.121
Chi-square approximation = 2.400 with 1 df

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-15s.syd,
created Sun Sep 22, 2002 at 22:19:07, contains variables:

WELL$ PARAM_ID$ VALUE LN_VALUE HD_VALUE HD_LN_VALU

The following results are for:
PARAM_ID$ = BEN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-15S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 99 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-15S	46	2350.500
MW-1S	53	2599.500

Mann-Whitney U test statistic = 1269.500
Probability is 0.669
Chi-square approximation = 0.183 with 1 df

The following results are for:
PARAM_ID$ = CD

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-15S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 99 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-15S	46	2431.500
MW-1S	53	2518.500

Mann-Whitney U test statistic = 1350.500
Probability is 0.139
Chi-square approximation = 2.188 with 1 df

The following results are for:
PARAM_ID$ = CU

Categorical values encountered during processing are:

WELL$ (2 levels)
MW-15S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 99 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-15S	46	2253.000
MW-1S	53	2697.000

Mann-Whitney U test statistic = 1172.000
Probability is 0.708
Chi-square approximation = 0.140 with 1 df

The following results are for:
PARAM_ID$ = EBN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-15S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 99 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-15S	46	2725.500
MW-1S	53	2224.500

Mann-Whitney U test statistic = 1644.500
Probability is 0.001
Chi-square approximation = 10.759 with 1 df

The following results are for:
PARAM_ID$ = HCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-15S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 100 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-15S	47	2303.000
MW-1S	53	2747.000

Mann-Whitney U test statistic = 1175.000
Probability is 0.552
Chi-square approximation = 0.354 with 1 df

The following results are for:
PARAM_ID$ = TCE

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-15S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 99 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group Count Rank Sum

MW-15S 46 1544.500
MW-1S 53 3405.500
Mann-Whitney U test statistic = 463.500
Probability is 0.000
Chi-square approximation = 28.118 with 1 df

The following results are for:
PARAM_ID$ = TCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-15S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 99 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-15S	46	2528.500
MW-1S	53	2421.500

Mann-Whitney U test statistic = 1447.500
Probability is 0.025
Chi-square approximation = 5.031 with 1 df

The following results are for:
PARAM_ID$ = TOL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-15S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 97 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-15S	45	2402.500
MW-1S	52	2350.500

Mann-Whitney U test statistic = 1367.500
Probability is 0.063
Chi-square approximation = 3.455 with 1 df

The following results are for:
PARAM_ID$ = TX

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-15S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 95 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-15S	44	2287.000
MW-1S	51	2273.000

Mann-Whitney U test statistic = 1297.000
Probability is 0.155
Chi-square approximation = 2.019 with 1 df

The following results are for:

PARAM_ID$ = TXL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-15S, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 4 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-15S	2	5.000
MW-1S	2	5.000

Mann-Whitney U test statistic = 2.000
Probability is 1.000
Chi-square approximation = 0.000 with 1 df

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-16.syd,
created Sun Sep 22, 2002 at 22:19:09, contains variables:

WELL$	PARAM_ID$	VALUE	LN_VALUE	HD_VALUE	HD_LN_VALU

The following results are for:
PARAM_ID$ = BEN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 93 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-16	40	2450.500
MW-1S	53	1920.500

Mann-Whitney U test statistic = 1630.500
Probability is 0.000
Chi-square approximation = 22.902 with 1 df

The following results are for:
PARAM_ID$ = CD

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 93 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-16	40	1867.500
MW-1S	53	2503.500

Mann-Whitney U test statistic = 1047.500
Probability is 0.850
Chi-square approximation = 0.036 with 1 df

The following results are for:
PARAM_ID$ = CU

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 93 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-16	40	1936.500
MW-1S	53	2434.500

Mann-Whitney U test statistic = 1116.500
Probability is 0.624
Chi-square approximation = 0.240 with 1 df

The following results are for:
PARAM_ID$ = EBN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 93 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-16	40	2748.500
MW-1S	53	1622.500

Mann-Whitney U test statistic = 1928.500
Probability is 0.000
Chi-square approximation = 49.354 with 1 df

The following results are for:
PARAM_ID$ = HCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 93 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-16	40	1779.500
MW-1S	53	2591.500

Mann-Whitney U test statistic = 959.500
Probability is 0.330
Chi-square approximation = 0.949 with 1 df

The following results are for:
PARAM_ID$ = TCE

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 93 cases

Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-16	40	2909.500
MW-1S	53	1461.500

Mann-Whitney U test statistic = 2089.500
Probability is 0.000
Chi-square approximation = 63.872 with 1 df

The following results are for:
PARAM_ID$ = TCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 93 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-16	40	1902.000
MW-1S	53	2469.000

Mann-Whitney U test statistic = 1082.000
Probability is 0.751
Chi-square approximation = 0.101 with 1 df

The following results are for:
PARAM_ID$ = TOL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 91 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-16	39	2441.000
MW-1S	52	1745.000

Mann-Whitney U test statistic = 1661.000
Probability is 0.000
Chi-square approximation = 33.603 with 1 df

The following results are for:
PARAM_ID$ = TX

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 89 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-16	38	2281.000
MW-1S	51	1724.000

Mann-Whitney U test statistic = 1540.000

Probability is 0.000
Chi-square approximation = 23.935 with 1 df

The following results are for:
PARAM_ID$ = TXL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Kruskal-Wallis One-Way Analysis of Variance for 4 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-16	2	6.500
MW-1S	2	3.500

Mann-Whitney U test statistic = 3.500
Probability is 0.221
Chi-square approximation = 1.500 with 1 df

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-3.syd,
created Sun Sep 22, 2002 at 22:19:10, contains variables:

WELL$ PARAM_ID$ VALUE LN_VALUE HD_VALUE HD_LN_VALU

The following results are for:
PARAM_ID$ = BEN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-3

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2465.500
MW-3	53	3205.500

Mann-Whitney U test statistic = 1034.500
Probability is 0.008
Chi-square approximation = 6.957 with 1 df

The following results are for:
PARAM_ID$ = CD

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-3

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2835.500
MW-3	53	2835.500

Mann-Whitney U test statistic = 1404.500
Probability is 1.000
Chi-square approximation = 0.000 with 1 df

The following results are for:
PARAM_ID$ = CU

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-3

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2908.500
MW-3	53	2762.500

Mann-Whitney U test statistic = 1477.500
Probability is 0.594
Chi-square approximation = 0.284 with 1 df

The following results are for:
PARAM_ID$ = EBN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-3

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2118.000
MW-3	53	3553.000

Mann-Whitney U test statistic = 687.000
Probability is 0.000
Chi-square approximation = 23.500 with 1 df

The following results are for:
PARAM_ID$ = HCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-3

Kruskal-Wallis One-Way Analysis of Variance for 107 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2869.000
MW-3	54	2909.000

Mann-Whitney U test statistic = 1438.000
Probability is 0.957
Chi-square approximation = 0.003 with 1 df

The following results are for:
PARAM_ID$ = TCE

Categorical values encountered during processing are:

WELL$ (2 levels)
MW-1S, MW-3

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1670.500
MW-3	53	4000.500

Mann-Whitney U test statistic = 239.500
Probability is 0.000
Chi-square approximation = 54.231 with 1 df

The following results are for:
PARAM_ID$ = TCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-3

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2760.500
MW-3	53	2910.500

Mann-Whitney U test statistic = 1329.500
Probability is 0.434
Chi-square approximation = 0.612 with 1 df

The following results are for:
PARAM_ID$ = TOL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-3

Kruskal-Wallis One-Way Analysis of Variance for 104 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	52	2149.000
MW-3	52	3311.000

Mann-Whitney U test statistic = 771.000
Probability is 0.000
Chi-square approximation = 20.541 with 1 df

The following results are for:
PARAM_ID$ = TX

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-3

Kruskal-Wallis One-Way Analysis of Variance for 102 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group Count Rank Sum

MW-1S 51 2189.000
MW-3 51 3064.000
Mann-Whitney U test statistic = 863.000
Probability is 0.002
Chi-square approximation = 9.722 with 1 df

The following results are for:
PARAM_ID$ = TXL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-3

Kruskal-Wallis One-Way Analysis of Variance for 4 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	2	3.000
MW-3	2	7.000

Mann-Whitney U test statistic = 0.000
Probability is 0.121
Chi-square approximation = 2.400 with 1 df

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-4.syd,
created Sun Sep 22, 2002 at 22:19:12, contains variables:

WELL$ PARAM_ID$ VALUE LN_VALUE HD_VALUE HD_LN_VALU

The following results are for:
PARAM_ID$ = BEN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1826.500
MW-4	56	4168.500

Mann-Whitney U test statistic = 395.500
Probability is 0.000
Chi-square approximation = 47.013 with 1 df

The following results are for:
PARAM_ID$ = CD

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1458.500
MW-4	56	4536.500

Mann-Whitney U test statistic = 27.500
Probability is 0.000
Chi-square approximation = 84.323 with 1 df

The following results are for:
PARAM_ID$ = CU

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2611.500
MW-4	56	3383.500

Mann-Whitney U test statistic = 1180.500
Probability is 0.046
Chi-square approximation = 3.973 with 1 df

The following results are for:
PARAM_ID$ = EBN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1566.500
MW-4	56	4428.500

Mann-Whitney U test statistic = 135.500
Probability is 0.000
Chi-square approximation = 70.052 with 1 df

The following results are for:
PARAM_ID$ = HCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1431.000
MW-4	56	4564.000

Mann-Whitney U test statistic = 0.000
Probability is 0.000
Chi-square approximation = 84.537 with 1 df

The following results are for:
PARAM_ID$ = TCE

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1432.000
MW-4	56	4563.000

Mann-Whitney U test statistic = 1.000
Probability is 0.000
Chi-square approximation = 80.887 with 1 df

The following results are for:
PARAM_ID$ = TCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1431.000
MW-4	56	4564.000

Mann-Whitney U test statistic = 0.000
Probability is 0.000
Chi-square approximation = 87.999 with 1 df

The following results are for:
PARAM_ID$ = TOL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Kruskal-Wallis One-Way Analysis of Variance for 107 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	52	1600.000
MW-4	55	4178.000

Mann-Whitney U test statistic = 222.000
Probability is 0.000
Chi-square approximation = 63.240 with 1 df

The following results are for:
PARAM_ID$ = TX

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Kruskal-Wallis One-Way Analysis of Variance for 104 cases

Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	51	1406.500
MW-4	53	4053.500

Mann-Whitney U test statistic = 80.500
Probability is 0.000
Chi-square approximation = 70.570 with 1 df

The following results are for:
PARAM_ID$ = TXL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Kruskal-Wallis One-Way Analysis of Variance for 5 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	2	3.000
MW-4	3	12.000

Mann-Whitney U test statistic = 0.000
Probability is 0.083
Chi-square approximation = 3.000 with 1 df

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-6B.syd,
created Sun Sep 22, 2002 at 22:19:14, contains variables:

WELL$ PARAM_ID$ VALUE LN_VALUE HD_VALUE HD_LN_VALU

The following results are for:
PARAM_ID$ = BEN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-6B

Kruskal-Wallis One-Way Analysis of Variance for 102 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2663.500
MW-6B	49	2589.500

Mann-Whitney U test statistic = 1232.500
Probability is 0.603
Chi-square approximation = 0.271 with 1 df

The following results are for:
PARAM_ID$ = CD

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-6B

Kruskal-Wallis One-Way Analysis of Variance for 102 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2676.500
MW-6B	49	2576.500

Mann-Whitney U test statistic = 1245.500
Probability is 0.552
Chi-square approximation = 0.353 with 1 df

The following results are for:
PARAM_ID$ = CU

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-6B

Kruskal-Wallis One-Way Analysis of Variance for 102 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2830.500
MW-6B	49	2422.500

Mann-Whitney U test statistic = 1399.500
Probability is 0.432
Chi-square approximation = 0.617 with 1 df

The following results are for:
PARAM_ID$ = EBN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-6B

Kruskal-Wallis One-Way Analysis of Variance for 102 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2416.500
MW-6B	49	2836.500

Mann-Whitney U test statistic = 985.500
Probability is 0.020
Chi-square approximation = 5.451 with 1 df

The following results are for:
PARAM_ID$ = HCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-6B

Kruskal-Wallis One-Way Analysis of Variance for 103 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2866.000
MW-6B	50	2490.000

Mann-Whitney U test statistic = 1435.000
Probability is 0.370
Chi-square approximation = 0.802 with 1 df

The following results are for:
PARAM_ID$ = TCE

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-6B

Kruskal-Wallis One-Way Analysis of Variance for 102 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	3044.500
MW-6B	49	2208.500

Mann-Whitney U test statistic = 1613.500
Probability is 0.035
Chi-square approximation = 4.455 with 1 df

The following results are for:
PARAM_ID$ = TCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-6B

Kruskal-Wallis One-Way Analysis of Variance for 102 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2507.000
MW-6B	49	2746.000

Mann-Whitney U test statistic = 1076.000
Probability is 0.028
Chi-square approximation = 4.817 with 1 df

The following results are for:
PARAM_ID$ = TOL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-6B

Kruskal-Wallis One-Way Analysis of Variance for 100 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	52	2378.500
MW-6B	48	2671.500

Mann-Whitney U test statistic = 1000.500
Probability is 0.037
Chi-square approximation = 4.344 with 1 df

The following results are for:
PARAM_ID$ = TX

Categorical values encountered during processing are:

WELL$ (2 levels)
MW-1S, MW-6B

Kruskal-Wallis One-Way Analysis of Variance for 98 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	51	2364.000
MW-6B	47	2487.000

Mann-Whitney U test statistic = 1038.000
Probability is 0.203
Chi-square approximation = 1.622 with 1 df

The following results are for:
PARAM_ID$ = TXL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-6B

Kruskal-Wallis One-Way Analysis of Variance for 4 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	2	5.000
MW-6B	2	5.000

Mann-Whitney U test statistic = 2.000
Probability is 1.000
Chi-square approximation = 0.000 with 1 df

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-7.syd,
created Sun Sep 22, 2002 at 22:19:15, contains variables:

WELL$ PARAM_ID$ VALUE LN_VALUE HD_VALUE HD_LN_VALU

The following results are for:
PARAM_ID$ = BEN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2372.000
MW-7	53	3299.000

Mann-Whitney U test statistic = 941.000
Probability is 0.001
Chi-square approximation = 10.203 with 1 df

The following results are for:
PARAM_ID$ = CD

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2738.000
MW-7	53	2933.000

Mann-Whitney U test statistic = 1307.000
Probability is 0.345
Chi-square approximation = 0.890 with 1 df

The following results are for:
PARAM_ID$ = CU

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2442.500
MW-7	53	3228.500

Mann-Whitney U test statistic = 1011.500
Probability is 0.008
Chi-square approximation = 7.071 with 1 df

The following results are for:
PARAM_ID$ = EBN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2257.500
MW-7	53	3413.500

Mann-Whitney U test statistic = 826.500
Probability is 0.000
Chi-square approximation = 15.803 with 1 df

The following results are for:
PARAM_ID$ = HCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2884.500
MW-7	53	2786.500

Mann-Whitney U test statistic = 1453.500
Probability is 0.703
Chi-square approximation = 0.146 with 1 df

The following results are for:
PARAM_ID$ = TCE

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1505.000
MW-7	53	4166.000

Mann-Whitney U test statistic = 74.000
Probability is 0.000
Chi-square approximation = 70.715 with 1 df

The following results are for:
PARAM_ID$ = TCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Kruskal-Wallis One-Way Analysis of Variance for 106 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2686.000
MW-7	53	2985.000

Mann-Whitney U test statistic = 1255.000
Probability is 0.149
Chi-square approximation = 2.086 with 1 df

The following results are for:
PARAM_ID$ = TOL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Kruskal-Wallis One-Way Analysis of Variance for 104 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	52	2299.500
MW-7	52	3160.500

Mann-Whitney U test statistic = 921.500
Probability is 0.000
Chi-square approximation = 12.542 with 1 df

The following results are for:
PARAM_ID$ = TX

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Kruskal-Wallis One-Way Analysis of Variance for 102 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	51	2391.000
MW-7	51	2862.000

Mann-Whitney U test statistic = 1065.000
Probability is 0.084
Chi-square approximation = 2.978 with 1 df

The following results are for:
PARAM_ID$ = TXL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Kruskal-Wallis One-Way Analysis of Variance for 4 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	2	4.500
MW-7	2	5.500

Mann-Whitney U test statistic = 1.500
Probability is 0.683
Chi-square approximation = 0.167 with 1 df

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-9.syd,
created Sun Sep 22, 2002 at 22:19:17, contains variables:

WELL$ PARAM_ID$ VALUE LN_VALUE HD_VALUE HD_LN_VALU

The following results are for:
PARAM_ID$ = BEN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1855.000
MW-9	56	4140.000

Mann-Whitney U test statistic = 424.000
Probability is 0.000
Chi-square approximation = 44.192 with 1 df

The following results are for:
PARAM_ID$ = CD

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2870.500
MW-9	56	3124.500

Mann-Whitney U test statistic = 1439.500
Probability is 0.661
Chi-square approximation = 0.192 with 1 df

The following results are for:
PARAM_ID$ = CU

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2954.500
MW-9	56	3040.500

Mann-Whitney U test statistic = 1523.500
Probability is 0.786
Chi-square approximation = 0.074 with 1 df

The following results are for:
PARAM_ID$ = EBN

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1698.500
MW-9	56	4296.500

Mann-Whitney U test statistic = 267.500
Probability is 0.000
Chi-square approximation = 57.488 with 1 df

The following results are for:
PARAM_ID$ = HCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2346.500
MW-9	56	3648.500

Mann-Whitney U test statistic = 915.500
Probability is 0.000
Chi-square approximation = 15.283 with 1 df

The following results are for:
PARAM_ID$ = TCE

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	1440.500
MW-9	56	4554.500

Mann-Whitney U test statistic = 9.500
Probability is 0.000
Chi-square approximation = 79.946 with 1 df

The following results are for:
PARAM_ID$ = TCR

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Kruskal-Wallis One-Way Analysis of Variance for 109 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	53	2275.000
MW-9	56	3720.000

Mann-Whitney U test statistic = 844.000
Probability is 0.000
Chi-square approximation = 21.912 with 1 df

The following results are for:
PARAM_ID$ = TOL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Kruskal-Wallis One-Way Analysis of Variance for 107 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	52	1679.000
MW-9	55	4099.000

Mann-Whitney U test statistic = 301.000
Probability is 0.000
Chi-square approximation = 55.616 with 1 df

The following results are for:
PARAM_ID$ = TX

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Kruskal-Wallis One-Way Analysis of Variance for 104 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	51	1676.500
MW-9	53	3783.500

Mann-Whitney U test statistic = 350.500
Probability is 0.000
Chi-square approximation = 44.800 with 1 df

The following results are for:
PARAM_ID$ = TXL

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Kruskal-Wallis One-Way Analysis of Variance for 5 cases
Dependent variable is VALUE
Grouping variable is WELL$

Group	Count	Rank Sum
MW-1S	2	3.000
MW-9	3	12.000

Mann-Whitney U test statistic = 0.000
Probability is 0.076
Chi-square approximation = 3.158 with 1 df

Appendix F-3
Parametric ANOVA Results

CDM

IMPORT successfully completed.

IMPORT successfully completed.

952 cases and 6 variables processed and saved.

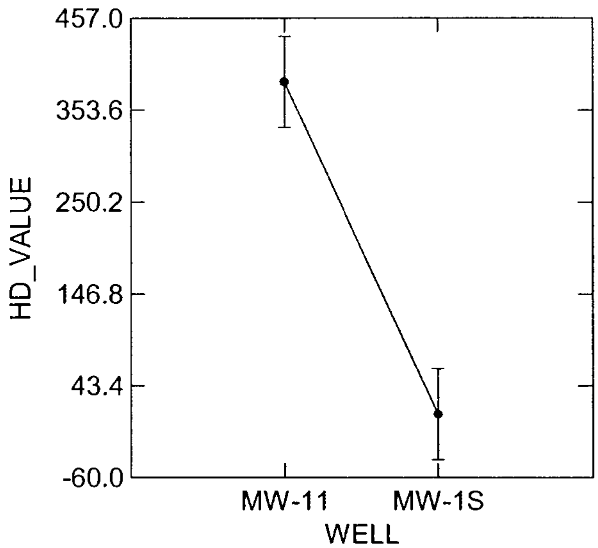
SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-11.SYD,
created Sun Sep 22, 2002 at 22:31:23, contains variables:

WELL$	PARAM_ID$	VALUE	LN_VALUE	HD_VALUE	HD_LN_VALU

```
Data for the following results were selected according to:
      (PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

Categorical values encountered during processing are:
WELL$ (2 levels)
   MW-11, MW-1S

Dep Var: HD_VALUE    N: 106    Multiple R: 0.451    Squared multiple R: 0.204

Analysis of Variance
```

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	37050 49.887	1	37050 49.887	26.59 8	(
Error	1.448 68E+07	104	13929 6.590		

Least Squares Means




```
*** WARNING ***
Case          837 is an outlier       (Studentized Residual =        9.085)
Case          855 is an outlier       (Studentized Residual =        3.776)

Durbin-Watson D Statistic          1.714
First Order Autocorrelation        0.138
COL/
ROW WELL$
  1  MW-11
  2  MW-1S
Using least squares means.
Post Hoc test of HD_VALUE
Using model MSE of 139296.590 with 104 df.
```

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	-373.916	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

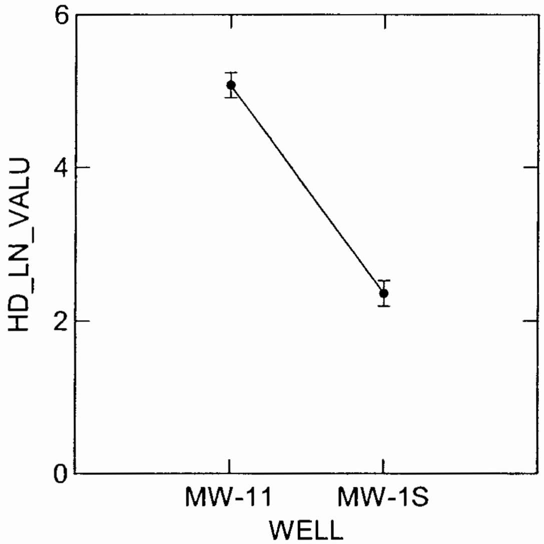
Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

```
Categorical values encountered during processing are:
WELL$ (2 levels)
   MW-11, MW-1S

Dep Var: HD_LN_VALU   N: 106   Multiple R: 0.749   Squared multiple R: 0.562

Analysis of Variance
```

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	195.670	1	195.670	133.279	(
Error	152.685	104	1.468		

Least Squares Means




```
*** WARNING ***
Case          121 is an outlier        (Studentized Residual =       -5.422)
Case          122 is an outlier        (Studentized Residual =       -5.422)

Durbin-Watson D Statistic          1.160
First Order Autocorrelation        0.310
COL/
ROW WELL$
  1  MW-11
  2  MW-1S
Using least squares means.
Post Hoc test of HD_LN_VALU
Using model MSE of 1.468 with 104 df.

Matrix of pairwise mean differences:
```

	1	2
1	0.000	
2	-2.717	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

IMPORT successfully completed.

881 cases and 6 variables processed and saved.

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-14s.SYD,
created Sun Sep 22, 2002 at 22:31:25, contains variables:

WELL$	PARAM_ID$	VALUE	LN_VALUE	HD_VALUE	HD_LN_VALU

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

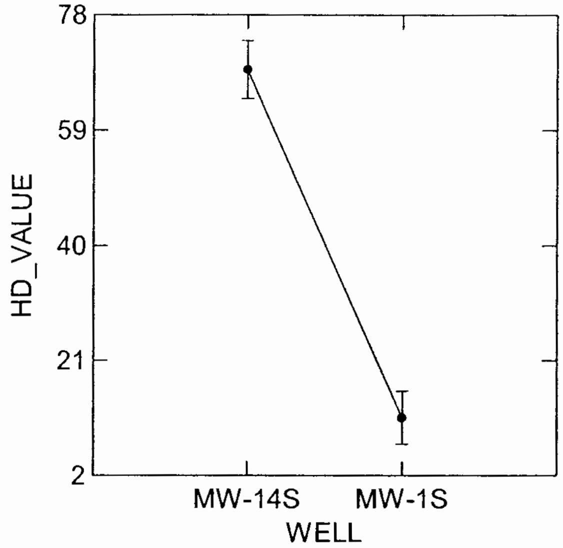
Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Dep Var: HD_VALUE N: 98 Multiple R: 0.672 Squared multiple R: 0.451

Analysis of Variance

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	80307 .626	1	80307 .626	79.01 7	(
Error	97568 .628	96	1016. 340		

Least Squares Means




```
*** WARNING ***
Case          102 is an outlier        (Studentized Residual =        3.754)
Case          711 is an outlier        (Studentized Residual =        3.754)

Durbin-Watson D Statistic          1.535
First Order Autocorrelation        0.217
COL/
ROW WELL$
  1  MW-14S
  2  MW-1S
Using least squares means.
Post Hoc test of HD_VALUE
Using model MSE of 1016.340 with 96 df.
```

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	-57.444	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

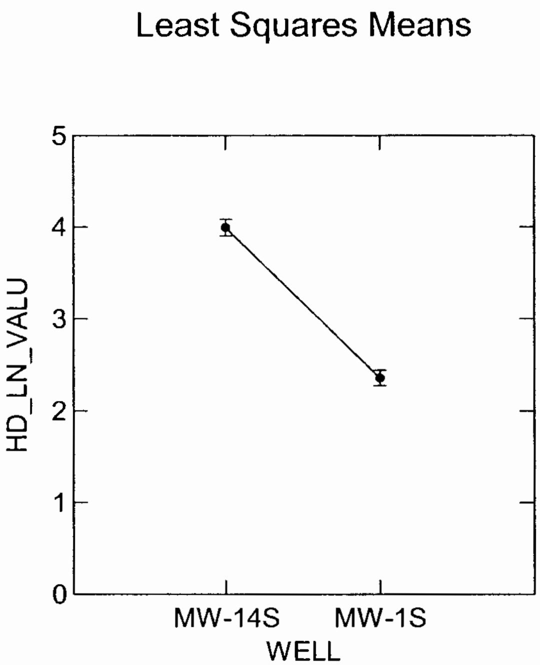
Effects coding used for categorical variables in model.

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-14S, MW-1S

Dep Var: HD_LN_VALU   N: 98   Multiple R: 0.806   Squared multiple R: 0.650

Analysis of Variance

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	65.20 5	1	65.20 5	178.0 79	
Error	35.15 1	96	0.366		



Durbin-Watson D Statistic 1.547
First Order Autocorrelation 0.199
COL/
ROW WELL$
1 MW-14S
2 MW-1S
Using least squares means.
Post Hoc test of HD_LN_VALU
Using model MSE of 0.366 with 96 df.

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	- 1.637	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

IMPORT successfully completed.

890 cases and 6 variables processed and saved.

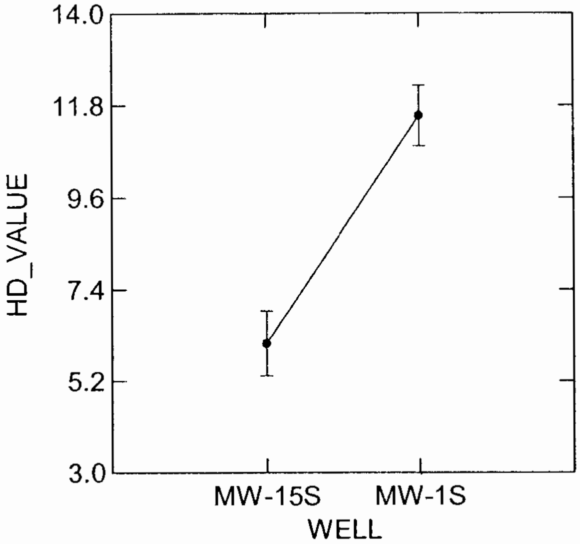
SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-15s.SYD,
created Sun Sep 22, 2002 at 22:31:26, contains variables:

WELL$ PARAM_ID$ VALUE LN_VALUE HD_VALUE HD_LN_VALU

```
Data for the following results were selected according to:
      (PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

Categorical values encountered during processing are:
WELL$ (2 levels)
   MW-15S, MW-1S

Dep Var: HD_VALUE   N: 99   Multiple R: 0.462   Squared multiple R: 0.213

Analysis of Variance
```

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	730.647	1	730.647	26.318	
Error	2692.905	97	27.762		

Least Squares Means




```
*** WARNING ***
Case            102 is an outlier        (Studentized Residual =        4.620)

Durbin-Watson D Statistic          0.966
First Order Autocorrelation        0.506
COL/
ROW WELL$
  1   MW-15S
  2   MW-1S
Using least squares means.
Post Hoc test of HD_VALUE
Using model MSE of 27.762 with 97 df.
```

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	5.447	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

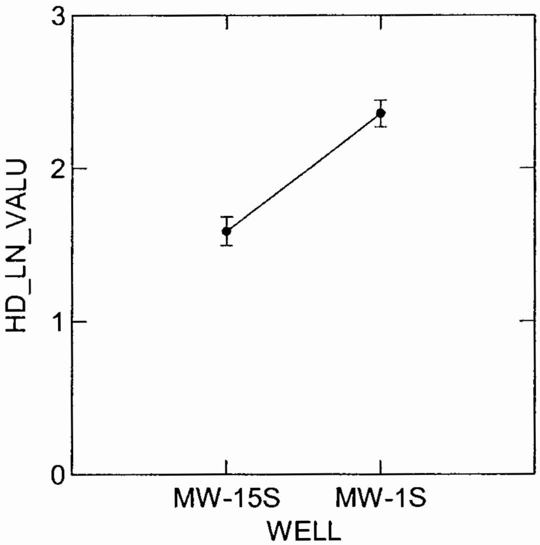
Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

```
Categorical values encountered during processing are:
WELL$ (2 levels)
   MW-15S, MW-1S

Dep Var: HD_LN_VALU    N: 99    Multiple R: 0.520    Squared multiple R: 0.270

Analysis of Variance
```

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	14.594	1	14.594	35.938	[illegible]
Error	39.391	97	0.406		

Least Squares Means




```
*** WARNING ***
Case            86 is an outlier        (Studentized Residual =       -3.870)

Durbin-Watson D Statistic          0.931
First Order Autocorrelation        0.465
COL/
ROW WELL$
  1  MW-15S
  2  MW-1S
Using least squares means.
Post Hoc test of HD_LN_VALU
Using model MSE of 0.406 with 97 df.

Matrix of pairwise mean differences:
```

	1	2
1	0.000	
2	0.770	0.000

```
Tukey HSD Multiple Comparisons.
```

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

IMPORT successfully completed.

835 cases and 6 variables processed and saved.

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-16.SYD,
created Sun Sep 22, 2002 at 22:31:27, contains variables:

WELL$	PARAM_ID$	VALUE	LN_VALUE	HD_VALUE	HD_LN_VALU

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

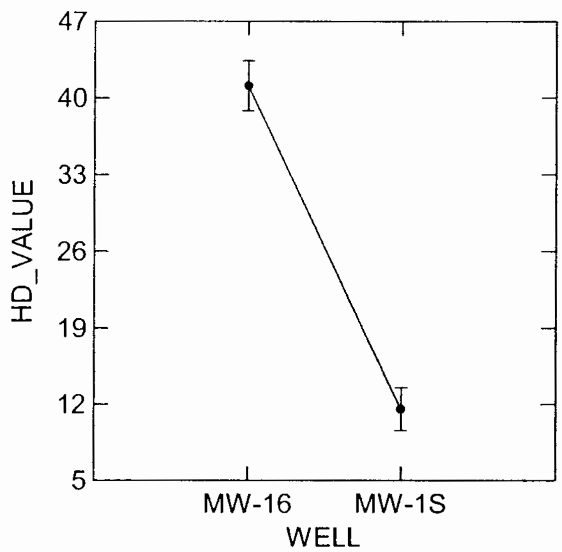
Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Dep Var: HD_VALUE N: 93 Multiple R: 0.715 Squared multiple R: 0.512

Analysis of Variance

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	19931 .325	1	19931 .325	95.34 5	
Error	19023 .003	91	209.0 44		

Least Squares Means




```
*** WARNING ***
Case            66 is an outlier        (Studentized Residual =         3.734)
Case           439 is an outlier        (Studentized Residual =         5.561)

Durbin-Watson D Statistic           1.371
First Order Autocorrelation         0.296
COL/
ROW WELL$
  1  MW-16
  2  MW-1S
Using least squares means.
Post Hoc test of HD_VALUE
Using model MSE of 209.044 with 91 df.
```

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	-29.569	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

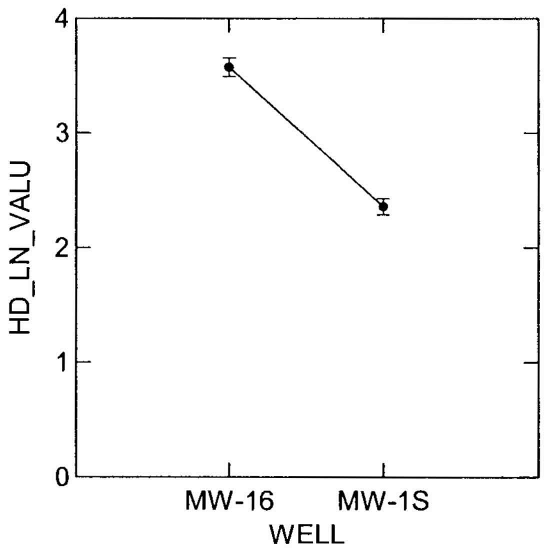
Categorical values encountered during processing are:
WELL$ (2 levels)
MW-16, MW-1S

Dep Var: HD_LN_VALU N: 93 Multiple R: 0.762 Squared multiple R: 0.581

Analysis of Variance

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	33.65 8	1	33.65 8	126.2 15	
Error	24.26 7	91	0.267		

Least Squares Means



Durbin-Watson D Statistic 1.231
First Order Autocorrelation 0.363
COL/
ROW WELL$
1 MW-16
2 MW-1S
Using least squares means.
Post Hoc test of HD_LN_VALU
Using model MSE of 0.267 with 91 df.

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	- 1.215	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

IMPORT successfully completed.

953 cases and 6 variables processed and saved.

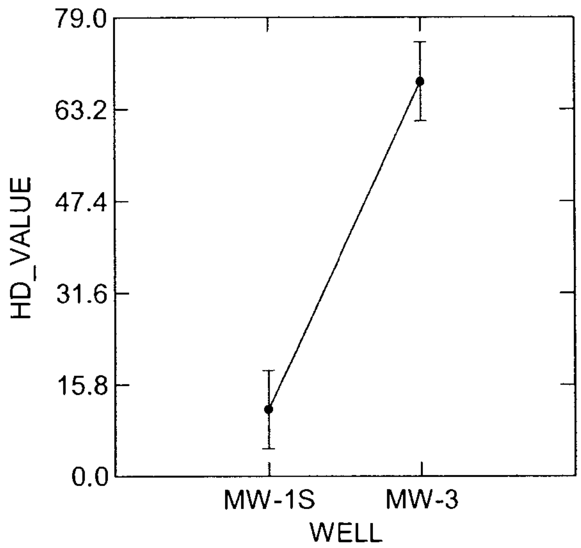
SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-3.SYD,
created Sun Sep 22, 2002 at 22:31:29, contains variables:

WELL$ PARAM_ID$ VALUE LN_VALUE HD_VALUE HD_LN_VALU

```
Data for the following results were selected according to:
      (PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

Categorical values encountered during processing are:
WELL$ (2 levels)
   MW-1S, MW-3

Dep Var: HD_VALUE    N: 106    Multiple R: 0.500    Squared multiple R: 0.250

Analysis of Variance
```

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	84244 .688	1	84244 .688	34.75 0	(
Error	25212 6.242	104	2424. 291		

Least Squares Means




```
*** WARNING ***
Case          893 is an outlier       (Studentized Residual =        5.064)
Case          934 is an outlier       (Studentized Residual =        4.784)
Case          953 is an outlier       (Studentized Residual =        4.249)

Durbin-Watson D Statistic          1.678
First Order Autocorrelation        0.088
COL/
ROW WELL$
  1  MW-1S
  2  MW-3
Using least squares means.
Post Hoc test of HD_VALUE
Using model MSE of 2424.291 with 104 df.
```

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	56.383	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

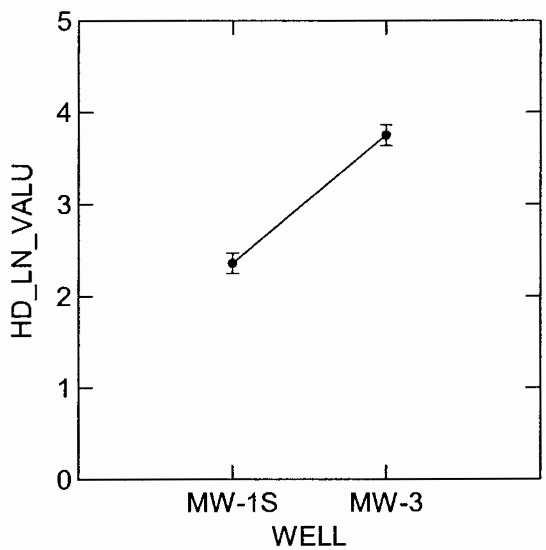
Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-3

Dep Var: HD_LN_VALU N: 106 Multiple R: 0.651 Squared multiple R: 0.423

Analysis of Variance

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	51.381	1	51.381	76.378	(
Error	69.963	104	0.673		

Least Squares Means



*** WARNING ***
Case 838 is an outlier (Studentized Residual = -4.774)

Durbin-Watson D Statistic 1.797
First Order Autocorrelation 0.075
COL/
ROW WELL$
1 MW-1S
2 MW-3
Using least squares means.
Post Hoc test of HD_LN_VALU
Using model MSE of 0.673 with 104 df.

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	1.392	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

IMPORT successfully completed.

979 cases and 6 variables processed and saved.

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-4.SYD,
created Sun Sep 22, 2002 at 22:31:31, contains variables:

WELL$ PARAM_ID$ VALUE LN_VALUE HD_VALUE HD_LN_VALU

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

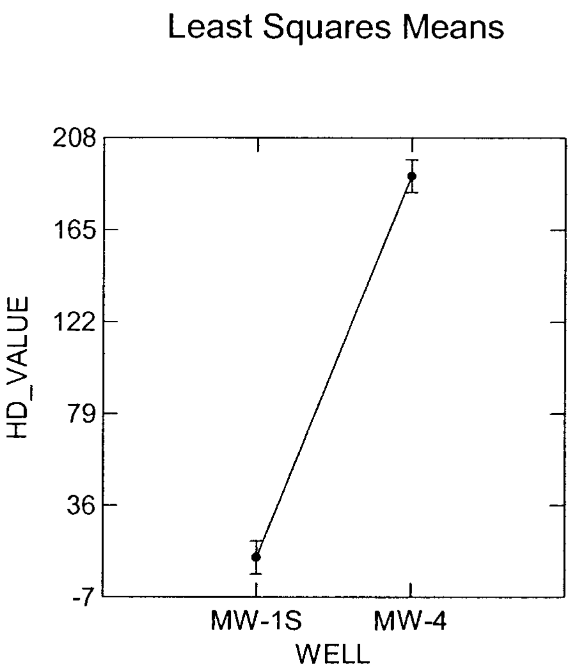
Effects coding used for categorical variables in model.

Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-4

Dep Var: HD_VALUE N: 109 Multiple R: 0.846 Squared multiple R: 0.715

Analysis of Variance

Source	Sum-of-Squares	df	Mean-Square	F-ratio	I
WELL$	86861 0.123	1	86861 0.123	269.0 66	(
Error	34542 2.182	107	3228. 245		




```
*** WARNING ***
Case          358 is an outlier        (Studentized Residual =        3.761)

Durbin-Watson D Statistic          1.142
First Order Autocorrelation        0.429
COL/
ROW WELL$
  1  MW-1S
  2  MW-4
Using least squares means.
Post Hoc test of HD_VALUE
Using model MSE of 3228.245 with 107 df.
```

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	178.605	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

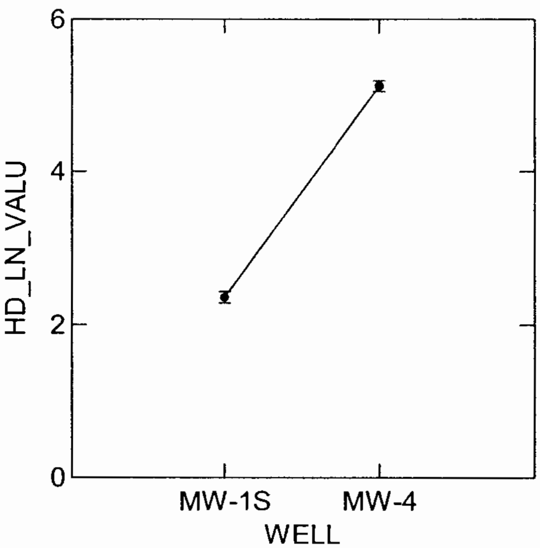
Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

```
Categorical values encountered during processing are:
WELL$ (2 levels)
   MW-1S, MW-4

Dep Var: HD_LN_VALU    N: 109    Multiple R: 0.933    Squared multiple R: 0.871

Analysis of Variance
```

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	207.723	1	207.723	721.232	
Error	30.817	107	0.288		

Least Squares Means




```
*** WARNING ***
Case          336 is an outlier        (Studentized Residual =       -3.789)
Case          712 is an outlier        (Studentized Residual =       -3.789)

Durbin-Watson D Statistic          1.505
First Order Autocorrelation        0.240
COL/
ROW WELL$
  1  MW-1S
  2  MW-4
Using least squares means.
Post Hoc test of HD_LN_VALU
Using model MSE of 0.288 with 107 df.

Matrix of pairwise mean differences:
```

	1	2
1	0.000	
2	2.762	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

IMPORT successfully completed.

917 cases and 6 variables processed and saved.

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-6B.SYD,
created Sun Sep 22, 2002 at 22:31:32, contains variables:

WELL$	PARAM_ID$	VALUE	LN_VALUE	HD_VALUE	HD_LN_VALU

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

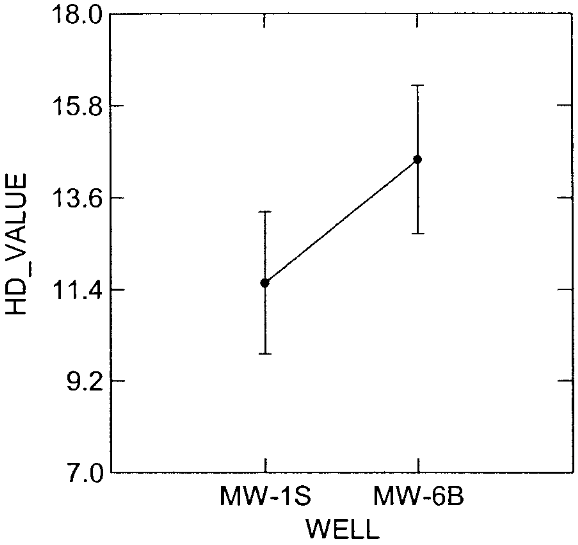
Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-6B

Dep Var: HD_VALUE N: 102 Multiple R: 0.119 Squared multiple R: 0.014

Analysis of Variance

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	222.2 56	1	222.2 56	1.443	(
Error	15405 .153	100	154.0 52		

Least Squares Means




```
*** WARNING ***
Case          333 is an outlier       (Studentized Residual =        3.668)
Case          334 is an outlier       (Studentized Residual =        3.866)
Case          335 is an outlier       (Studentized Residual =        4.068)

Durbin-Watson D Statistic          0.520
First Order Autocorrelation        0.736
COL/
ROW WELL$
  1  MW-1S
  2  MW-6B
Using least squares means.
Post Hoc test of HD_VALUE
Using model MSE of 154.052 with 100 df.
```

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	2.955	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

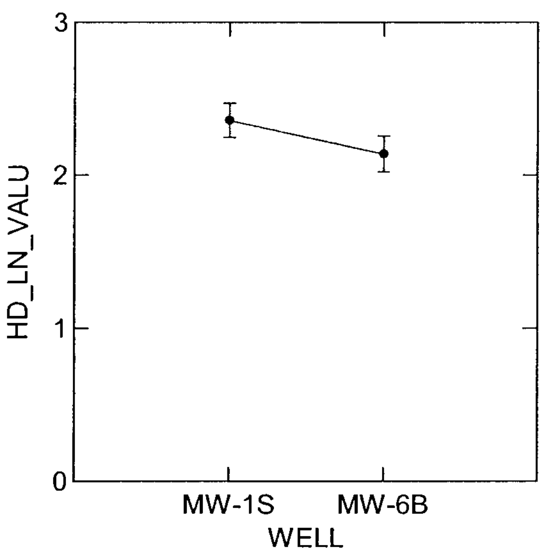
	1	2
1	1.000	
2	0.233	1.000

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

```
Effects coding used for categorical variables in model.

Categorical values encountered during processing are:
WELL$ (2 levels)
   MW-1S, MW-6B

Dep Var: HD_LN_VALU   N: 102   Multiple R: 0.135   Squared multiple R: 0.018

Analysis of Variance
```

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	1.221	1	1.221	1.849	(
Error	66.05 6	100	0.661		

Least Squares Means




```
Durbin-Watson D Statistic          0.813
First Order Autocorrelation        0.589
COL/
ROW WELL$
  1  MW-1S
  2  MW-6B
Using least squares means.
Post Hoc test of HD_LN_VALU
Using model MSE of 0.661 with 100 df.

Matrix of pairwise mean differences:
```

	1	2
1	0.000	
2	-0.219	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.177	1.000

IMPORT successfully completed.

952 cases and 6 variables processed and saved.

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-7.SYD,
created Sun Sep 22, 2002 at 22:31:34, contains variables:

WELL$ PARAM_ID$ VALUE LN_VALUE HD_VALUE HD_LN_VALU

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

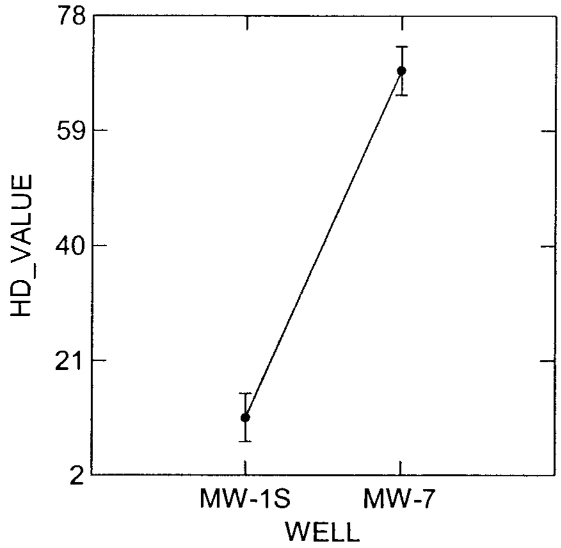
Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-7

Dep Var: HD_VALUE N: 106 Multiple R: 0.704 Squared multiple R: 0.496

Analysis of Variance

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	87348 .454	1	87348 .454	102.2 77	
Error	88819 .664	104	854.0 35		

Least Squares Means




```
*** WARNING ***
Case          448 is an outlier        (Studentized Residual =        3.697)

Durbin-Watson D Statistic          1.458
First Order Autocorrelation        0.266
COL/
ROW WELL$
  1  MW-1S
  2  MW-7
Using least squares means.
Post Hoc test of HD_VALUE
Using model MSE of 854.035 with 104 df.

Matrix of pairwise mean differences:
```

	1	2
1	0.000	
2	57.41 2	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

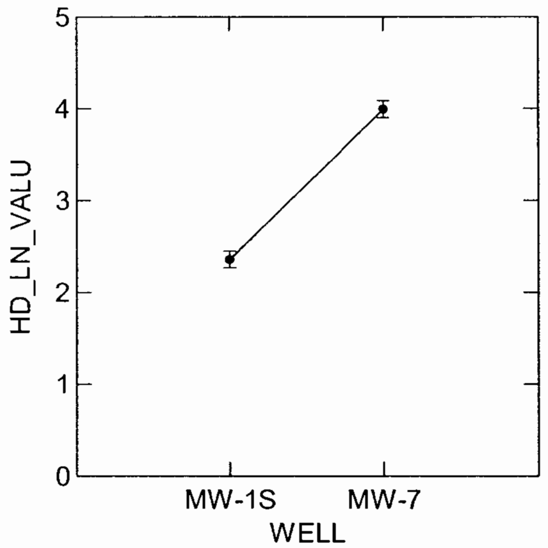
Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

```
Categorical values encountered during processing are:
WELL$ (2 levels)
   MW-1S, MW-7

Dep Var: HD_LN_VALU   N: 106   Multiple R: 0.780   Squared multiple R: 0.609

Analysis of Variance
```

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	70.79 6	1	70.79 6	161.8 69	
Error	45.48 6	104	0.437		

Least Squares Means




```
*** WARNING ***
Case           336 is an outlier        (Studentized Residual =       -6.010)

Durbin-Watson D Statistic          1.681
First Order Autocorrelation        0.151
COL/
ROW WELL$
  1  MW-1S
  2  MW-7
Using least squares means.
Post Hoc test of HD_LN_VALU
Using model MSE of 0.437 with 104 df.

Matrix of pairwise mean differences:
```

	1	2
1	0.000	
2	1.634	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

IMPORT successfully completed.

979 cases and 6 variables processed and saved.

SYSTAT Rectangular file C:\CDM\Phibro\Jul02\1-9.SYD,
created Sun Sep 22, 2002 at 22:31:36, contains variables:

WELL$	PARAM_ID$	VALUE	LN_VALUE	HD_VALUE	HD_LN_VALU

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

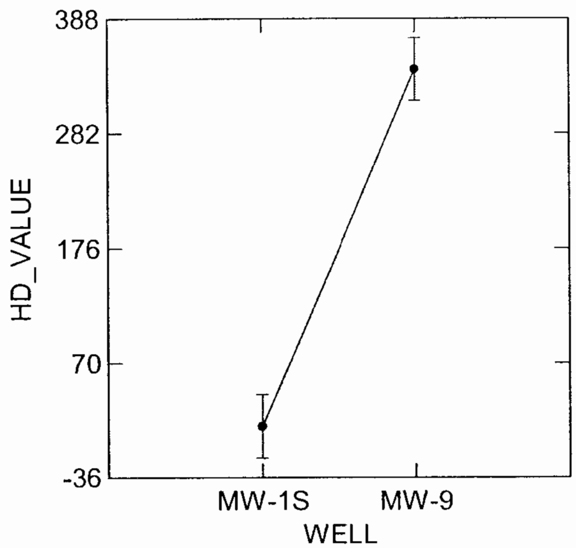
Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Dep Var: HD_VALUE N: 109 Multiple R: 0.610 Squared multiple R: 0.372

Analysis of Variance

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	29572 22.065	1	29572 22.065	63.39 1	(
Error	49916 33.985	107	46650 .785		

Least Squares Means




```
*** WARNING ***
Case          359 is an outlier        (Studentized Residual =         3.756)
Case          694 is an outlier        (Studentized Residual =         4.947)
Case          712 is an outlier        (Studentized Residual =         4.333)

Durbin-Watson D Statistic          1.438
First Order Autocorrelation        0.278
COL/
ROW WELL$
  1  MW-1S
  2  MW-9
Using least squares means.
Post Hoc test of HD_VALUE
Using model MSE of 46650.785 with 107 df.
```

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	329.551	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000

Data for the following results were selected according to:
(PARAM_ID$= "TCE")

Effects coding used for categorical variables in model.

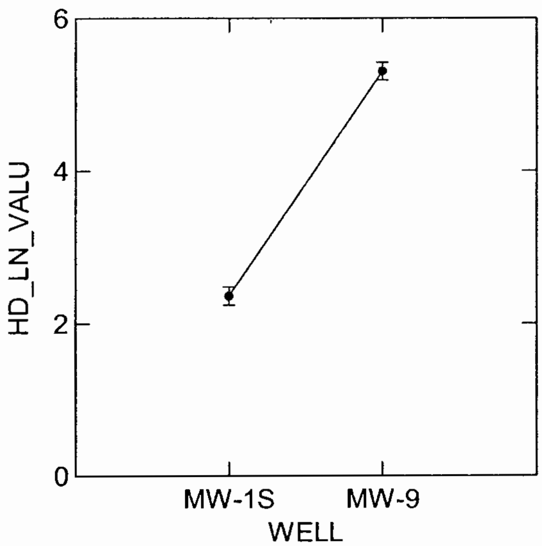
Categorical values encountered during processing are:
WELL$ (2 levels)
MW-1S, MW-9

Dep Var: HD_LN_VALU N: 109 Multiple R: 0.864 Squared multiple R: 0.747

Analysis of Variance

Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
WELL$	236.148	1	236.148	315.655	(
Error	80.049	107	0.748		

Least Squares Means



Durbin-Watson D Statistic 1.185
First Order Autocorrelation 0.399
COL/
ROW WELL$
1 MW-1S
2 MW-9
Using least squares means.
Post Hoc test of HD_LN_VALU
Using model MSE of 0.748 with 107 df.

Matrix of pairwise mean differences:

	1	2
1	0.000	
2	2.945	0.000

Tukey HSD Multiple Comparisons.

Matrix of pairwise comparison probabilities:

	1	2
1	1.000	
2	0.000	1.000